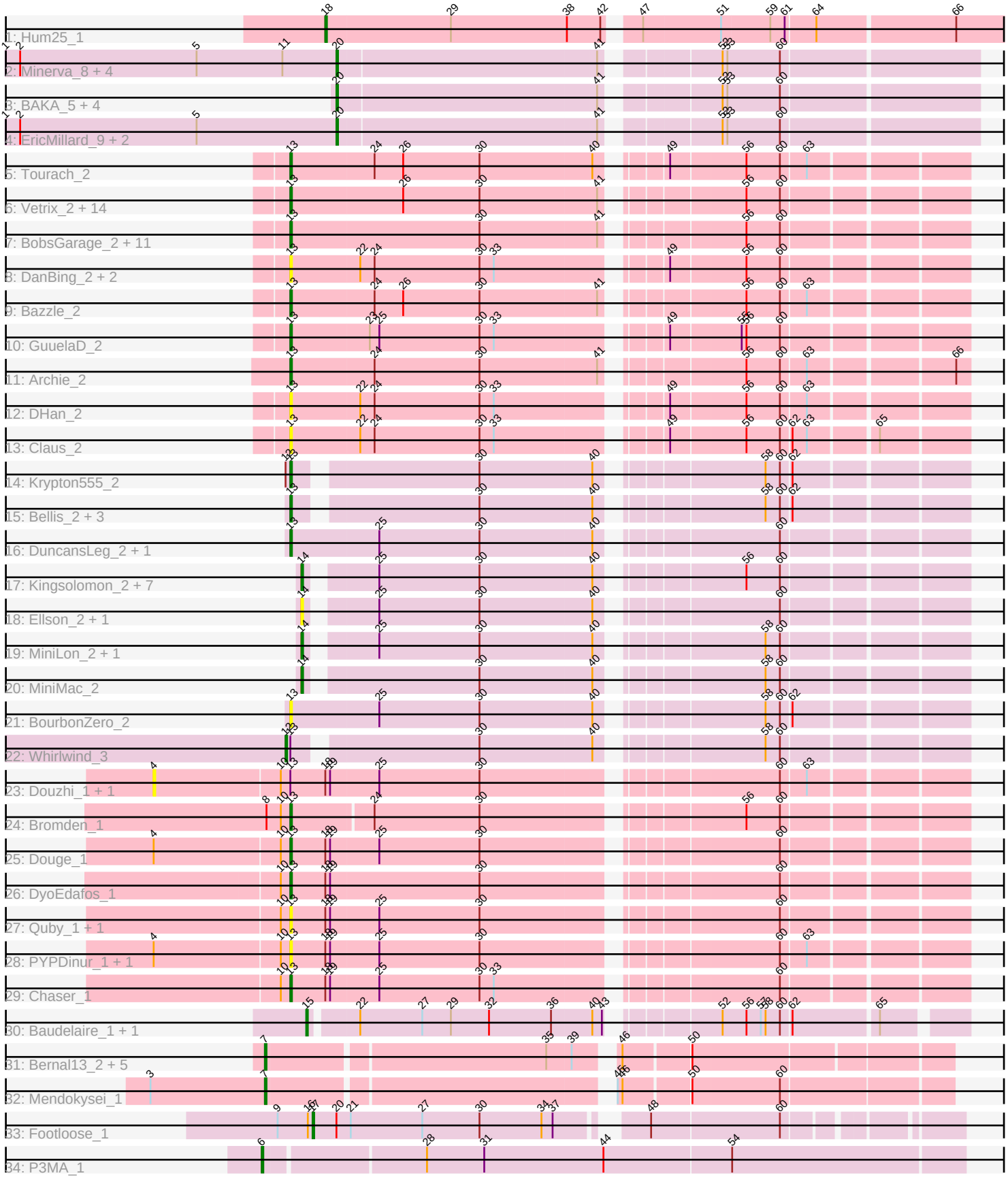
Pham 192479


1: Hum25_1
2: Minerva_8 + 4
3: BAKA_5 + 4
4: EricMillard_9 + 2
5: Tourach_2
6: Vetrix_2 + 14
7: BobsGarage_2 + 11
8: DanBing_2 + 2
9: Bazzle_2
10: GuuelaD_2
11: Archie_2
12: DHan_2
13: Claus_2
14: Krypton555_2
15: Bellis_2 + 3
16: DuncansLeg_2 + 1
17: Kingsolomon_2 + 7
18: Ellson_2 + 1
19: MiniLon_2 + 1
20: MiniMac_2
21: BourbonZero_2
22: Whirlwind_3
23: Douzhi_1 + 1
24: Bromden_1
25: Douge_1
26: DyoEdafos_1
27: Quby_1 + 1
28: PYPDinur_1 + 1
29: Chaser_1
30: Baudelaire_1 + 1
31: Bernal13_2 + 5
32: Mendokysei_1
33: Footloose_1
34: P3MA_1

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 192479 Report

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

Pham number 192479 has 93 members, 21 are drafts.

Phages represented in each track:
• Track 1 : Hum25_1
• Track 2 : Minerva_8, DmpstrDiver_8, ThreeRngTarjay_8, Hughesyang_8, Kalah2_9
• Track 3 : BAKA_5, Duke13_5, Optimus_6, Thibault_5, Constella_4
• Track 4 : EricMillard_9, Odette_8, Phoebus_9
• Track 5 : Tourach_2
• Track 6 : Vetrix_2, Soap141_2, Kahlid_2, LilDestine_2, Sarshaun_2, Finemlucis_2, Nicholasp3_2, Loadrie_2, Gardann_2, Wilder_2, MkaliMitinis3_2, Hafay_2, Crossroads_2, Wigglewiggle_2, Rumpelstiltskin_2
• Track 7 : BobsGarage_2, Netyap_2, Miley16_2, Gabriela_2, Winky_2, Zakai_2, Lewan_2, DrSeegs_2, Breezona_2, Itos_2, BigCheese_2, Faith1_2
• Track 8 : DanBing_2, ZhongYanYuan_2, Baoshan_2
• Track 9 : Bazzle_2
• Track 10 : GuuelaD_2
• Track 11 : Archie_2
• Track 12 : DHan_2
• Track 13 : Claus_2
• Track 14 : Krypton555_2
• Track 15 : Bellis_2, Moostard_2, Samty_2, Finnry_2
• Track 16 : DuncansLeg_2, LiyuLake_2
• Track 17 : Kingsolomon_2, Nicholas_2, Lumos_2, Snenia_2, MsGreen_2, Jubie_2, Clautastrophe_2, Jobypre_2
• Track 18 : Ellson_2, KirDoubleO7_2
• Track 19 : MiniLon_2, Lolly9_2
• Track 20 : MiniMac_2
• Track 21 : BourbonZero_2
• Track 22 : Whirlwind_3
• Track 23 : Douzhi_1, BrainDrainer_1
• Track 24 : Bromden_1
• Track 25 : Douge_1
• Track 26 : DyoEdafos_1
• Track 27 : Quby_1, FarmResident_1
• Track 28 : PYPDinur_1, Sheng711_1
• Track 29 : Chaser_1
• Track 30 : Baudelaire_1, Aegeus_1
• Track 31 : Bernal13_2, Nairb_2, ZenTime222_2, Ibrahim_2, RonRayGun_2, Whitty_2
• Track 32 : Mendokysei_1

• Track 33 : Footloose_1
• Track 34 : P3MA_1

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

The start number called the most often in the published annotations is 13, it was called in 37 of the 72 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Archie_2, Baoshan_2, Bazzle_2, Bellis_2, BigCheese_2, BobsGarage_2, BourbonZero_2, Breezona_2, Bromden_1, Chaser_1, Claus_2, Crossroads_2, DHan_2, DanBing_2, Douge_1, DrSeegs_2, DuncansLeg_2, DyoEdafos_1, Faith1_2, FarmResident_1, Finemlucis_2, Finnry_2, Gabriela_2, Gardann_2, GuuelaD_2, Hafay_2, Itos_2, Kahlid_2, Krypton555_2, Lewan_2, LilDestine_2, LiyuLake_2, Loadrie_2, Miley16_2, MkaliMitinis3_2, Moostard_2, Netyap_2, Nicholasp3_2, PYPDinur_1, Quby_1, Rumpelstiltskin_2, Samty_2, Sarshaun_2, Sheng711_1, Soap141_2, Tourach_2, Vetrix_2, Wigglewiggle_2, Wilder_2, Winky_2, Zakai_2, ZhongYanYuan_2,

Genes that have the "Most Annotated" start but do not call it:
• BrainDrainer_1, Douzhi_1, Whirlwind_3,

Genes that do not have the "Most Annotated" start:
• Aegeus_1, BAKA_5, Baudelaire_1, Bernal13_2, Clautastrophe_2, Constella_4, DmpstrDiver_8, Duke13_5, Ellson_2, EricMillard_9, Footloose_1, Hughesyang_8, Hum25_1, Ibrahim_2, Jobypre_2, Jubie_2, Kalah2_9, Kingsolomon_2, KirDoubleO7_2, Lolly9_2, Lumos_2, Mendokysei_1, Minerva_8, MiniLon_2, MiniMac_2, MsGreen_2, Nairb_2, Nicholas_2, Odette_8, Optimus_6, P3MA_1, Phoebus_9, RonRayGun_2, Snenia_2, Thibault_5, ThreeRngTarjay_8, Whitty_2, ZenTime222_2,

Summary by start number:

Start 4:
• Found in 5 of 93 (5.4%) of genes in pham
• No Manual Annotations of this start.
• Called 40.0% of time when present
• Phage (with cluster) where this start called: BrainDrainer_1 (L4), Douzhi_1 (L4),

Start 6:
• Found in 1 of 93 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 72
• Called 100.0% of time when present
• Phage (with cluster) where this start called: P3MA_1 (singleton),

Start 7:
• Found in 7 of 93 (7.5%) of genes in pham
• Manual Annotations of this start: 7 of 72
• Called 100.0% of time when present

• Phage (with cluster) where this start called: Bernal13_2 (T), Ibrahim_2 (T), Mendokysei_1 (T), Nairb_2 (T), RonRayGun_2 (T), Whitty_2 (T), ZenTime222_2 (T),

Start 12:
• Found in 2 of 93 (2.2%) of genes in pham
• Manual Annotations of this start: 1 of 72
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Whirlwind_3 (L3),

Start 13:
• Found in 55 of 93 (59.1%) of genes in pham
• Manual Annotations of this start: 37 of 72
• Called 94.5% of time when present
• Phage (with cluster) where this start called: Archie_2 (L2), Baoshan_2 (L2), Bazzle_2 (L2), Bellis_2 (L3), BigCheese_2 (L2), BobsGarage_2 (L2), BourbonZero_2 (L3), Breezona_2 (L2), Bromden_1 (L4), Chaser_1 (L4), Claus_2 (L2), Crossroads_2 (L2), DHan_2 (L2), DanBing_2 (L2), Douge_1 (L4), DrSeegs_2 (L2), DuncansLeg_2 (L3), DyoEdafos_1 (L4), Faith1_2 (L2), FarmResident_1 (L4), Finemlucis_2 (L2), Finnry_2 (L3), Gabriela_2 (L2), Gardann_2 (L2), GuuelaD_2 (L2), Hafay_2 (L2), Itos_2 (L2), Kahlid_2 (L2), Krypton555_2 (L3), Lewan_2 (L2), LilDestine_2 (L2), LiyuLake_2 (L3), Loadrie_2 (L2), Miley16_2 (L2), MkaliMitinis3_2 (L2), Moostard_2 (L3), Netyap_2 (L2), Nicholasp3_2 (L2), PYPDinur_1 (L4), Quby_1 (L4), Rumpelstiltskin_2 (L2), Samty_2 (L3), Sarshaun_2 (L2), Sheng711_1 (L4), Soap141_2 (L2), Tourach_2 (L2), Vetrix_2 (L2), Wigglewiggle_2 (L2), Wilder_2 (L2), Winky_2 (L2), Zakai_2 (L2), ZhongYanYuan_2 (L2),

Start 14:
• Found in 13 of 93 (14.0%) of genes in pham
• Manual Annotations of this start: 10 of 72
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Clautastrophe_2 (L3), Ellson_2 (L3), Jobypre_2 (L3), Jubie_2 (L3), Kingsolomon_2 (L3), KirDoubleO7_2 (L3), Lolly9_2 (L3), Lumos_2 (L3), MiniLon_2 (L3), MiniMac_2 (L3), MsGreen_2 (L3), Nicholas_2 (L3), Snenia_2 (L3),

Start 15:
• Found in 2 of 93 (2.2%) of genes in pham
• Manual Annotations of this start: 2 of 72
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Aegeus_1 (L5), Baudelaire_1 (L5),

Start 17:
• Found in 1 of 93 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 72
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Footloose_1 (singleton),

Start 18:
• Found in 10 of 93 (10.8%) of genes in pham
• Manual Annotations of this start: 1 of 72
• Called 10.0% of time when present
• Phage (with cluster) where this start called: Hum25_1 (FQ),

Start 20:
• Found in 14 of 93 (15.1%) of genes in pham
• Manual Annotations of this start: 12 of 72
• Called 92.9% of time when present
• Phage (with cluster) where this start called: BAKA_5 (J), Constella_4 (J), DmpstrDiver_8 (J), Duke13_5 (J), EricMillard_9 (J), Hughesyang_8 (J), Kalah2_9 (J), Minerva_8 (J), Odette_8 (J), Optimus_6 (J), Phoebus_9 (J), Thibault_5 (J), ThreeRngTarjay_8 (J),

Summary by clusters:

There are 8 clusters represented in this pham: FQ, singleton, J, L4, L5, L2, L3, T,

Info for manual annotations of cluster FQ:
•Start number 18 was manually annotated 1 time for cluster FQ.

Info for manual annotations of cluster J:
•Start number 20 was manually annotated 12 times for cluster J.

Info for manual annotations of cluster L2:
•Start number 13 was manually annotated 28 times for cluster L2.

Info for manual annotations of cluster L3:
•Start number 12 was manually annotated 1 time for cluster L3.
•Start number 13 was manually annotated 5 times for cluster L3.
•Start number 14 was manually annotated 10 times for cluster L3.

Info for manual annotations of cluster L4:
•Start number 13 was manually annotated 4 times for cluster L4.

Info for manual annotations of cluster L5:
•Start number 15 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster T:
•Start number 7 was manually annotated 7 times for cluster T.

Gene Information:

Gene: Aegeus_1 Start: 126, Stop: 497, Start Num: 15
Candidate Starts for Aegeus_1:
(Start: 15 @126 has 2 MA's), (22, 153), (27, 192), (29, 210), (32, 234), (36, 273), (40, 297), (43, 303), (52, 357), (56, 372), (57, 381), (58, 384), (60, 393), (62, 399), (65, 450),

Gene: Archie_2 Start: 442, Stop: 831, Start Num: 13
Candidate Starts for Archie_2:
(Start: 13 @442 has 37 MA's), (24, 493), (30, 559), (41, 631), (56, 703), (60, 724), (63, 739), (66, 823),

Gene: BAKA_5 Start: 2395, Stop: 2769, Start Num: 20
Candidate Starts for BAKA_5:
(Start: 20 @2395 has 12 MA's), (41, 2554), (52, 2614), (53, 2617), (60, 2650),

Gene: Baoshan_2 Start: 489, Stop: 878, Start Num: 13
Candidate Starts for Baoshan_2:
(Start: 13 @489 has 37 MA's), (22, 531), (24, 540), (30, 606), (33, 615), (49, 705), (56, 750), (60, 771),

Gene: Baudelaire_1 Start: 126, Stop: 497, Start Num: 15
Candidate Starts for Baudelaire_1:
(Start: 15 @126 has 2 MA's), (22, 153), (27, 192), (29, 210), (32, 234), (36, 273), (40, 297), (43, 303), (52, 357), (56, 372), (57, 381), (58, 384), (60, 393), (62, 399), (65, 450),

Gene: Bazzle_2 Start: 478, Stop: 867, Start Num: 13
Candidate Starts for Bazzle_2:
(Start: 13 @478 has 37 MA's), (24, 529), (26, 547), (30, 595), (41, 667), (56, 739), (60, 760), (63, 775),

Gene: Bellis_2 Start: 465, Stop: 842, Start Num: 13
Candidate Starts for Bellis_2:
(Start: 13 @465 has 37 MA's), (30, 570), (40, 639), (58, 726), (60, 735), (62, 741),

Gene: Bernal13_2 Start: 332, Stop: 724, Start Num: 7
Candidate Starts for Bernal13_2:
(Start: 7 @332 has 7 MA's), (35, 500), (39, 515), (46, 533), (50, 572),

Gene: BigCheese_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for BigCheese_2:
(Start: 13 @477 has 37 MA's), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: BobsGarage_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for BobsGarage_2:
(Start: 13 @477 has 37 MA's), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: BourbonZero_2 Start: 464, Stop: 853, Start Num: 13
Candidate Starts for BourbonZero_2:
(Start: 13 @464 has 37 MA's), (25, 518), (30, 581), (40, 650), (58, 737), (60, 746), (62, 752),

Gene: BrainDrainer_1 Start: 45, Stop: 518, Start Num: 4
Candidate Starts for BrainDrainer_1:
(4, 45), (10, 123), (Start: 13 @129 has 37 MA's), (Start: 18 @150 has 1 MA's), (19, 153), (25, 183), (30, 246), (60, 411), (63, 426),

Gene: Breezona_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Breezona_2:
(Start: 13 @477 has 37 MA's), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Bromden_1 Start: 131, Stop: 517, Start Num: 13
Candidate Starts for Bromden_1:
(8, 116), (10, 125), (Start: 13 @131 has 37 MA's), (24, 179), (30, 245), (56, 389), (60, 410),

Gene: Chaser_1 Start: 129, Stop: 518, Start Num: 13
Candidate Starts for Chaser_1:
(10, 123), (Start: 13 @129 has 37 MA's), (Start: 18 @150 has 1 MA's), (19, 153), (25, 183), (30, 246), (33, 255), (60, 411),

Gene: Claus_2 Start: 489, Stop: 878, Start Num: 13
Candidate Starts for Claus_2:

(Start: 13 @489 has 37 MA's), (22, 531), (24, 540), (30, 606), (33, 615), (49, 705), (56, 750), (60, 771), (62, 777), (63, 786), (65, 825),

Gene: Clautastrophe_2 Start: 481, Stop: 852, Start Num: 14
Candidate Starts for Clautastrophe_2:
(Start: 14 @481 has 10 MA's), (25, 517), (30, 580), (40, 649), (56, 724), (60, 745),

Gene: Constella_4 Start: 1576, Stop: 1950, Start Num: 20
Candidate Starts for Constella_4:
(Start: 20 @1576 has 12 MA's), (41, 1735), (52, 1795), (53, 1798), (60, 1831),

Gene: Crossroads_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Crossroads_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: DHan_2 Start: 488, Stop: 877, Start Num: 13
Candidate Starts for DHan_2:
(Start: 13 @488 has 37 MA's), (22, 530), (24, 539), (30, 605), (33, 614), (49, 704), (56, 749), (60, 770), (63, 785),

Gene: DanBing_2 Start: 489, Stop: 878, Start Num: 13
Candidate Starts for DanBing_2:
(Start: 13 @489 has 37 MA's), (22, 531), (24, 540), (30, 606), (33, 615), (49, 705), (56, 750), (60, 771),

Gene: DmpstrDiver_8 Start: 2938, Stop: 3312, Start Num: 20
Candidate Starts for DmpstrDiver_8:
(1, 2731), (2, 2740), (5, 2851), (11, 2905), (Start: 20 @2938 has 12 MA's), (41, 3097), (52, 3157), (53, 3160), (60, 3193),

Gene: Douge_1 Start: 129, Stop: 518, Start Num: 13
Candidate Starts for Douge_1:
(4, 45), (10, 123), (Start: 13 @129 has 37 MA's), (Start: 18 @150 has 1 MA's), (19, 153), (25, 183), (30, 246), (60, 411),

Gene: Douzhi_1 Start: 45, Stop: 518, Start Num: 4
Candidate Starts for Douzhi_1:
(4, 45), (10, 123), (Start: 13 @129 has 37 MA's), (Start: 18 @150 has 1 MA's), (19, 153), (25, 183), (30, 246), (60, 411), (63, 426),

Gene: DrSeegs_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for DrSeegs_2:
(Start: 13 @477 has 37 MA's), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Duke13_5 Start: 2323, Stop: 2697, Start Num: 20
Candidate Starts for Duke13_5:
(Start: 20 @2323 has 12 MA's), (41, 2482), (52, 2542), (53, 2545), (60, 2578),

Gene: DuncansLeg_2 Start: 466, Stop: 855, Start Num: 13
Candidate Starts for DuncansLeg_2:
(Start: 13 @466 has 37 MA's), (25, 520), (30, 583), (40, 652), (60, 748),

Gene: DyoEdafos_1 Start: 128, Stop: 517, Start Num: 13
Candidate Starts for DyoEdafos_1:

(10, 122), (Start: 13 @128 has 37 MA's), (Start: 18 @149 has 1 MA's), (19, 152), (30, 245), (60, 410),

Gene: Ellson_2 Start: 493, Stop: 864, Start Num: 14
Candidate Starts for Ellson_2:
(Start: 14 @493 has 10 MA's), (25, 529), (30, 592), (40, 661), (60, 757),

Gene: EricMillard_9 Start: 3043, Stop: 3417, Start Num: 20
Candidate Starts for EricMillard_9:
(1, 2836), (2, 2845), (5, 2956), (Start: 20 @3043 has 12 MA's), (41, 3202), (52, 3262), (53, 3265), (60, 3298),

Gene: Faith1_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Faith1_2:
(Start: 13 @477 has 37 MA's), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: FarmResident_1 Start: 129, Stop: 518, Start Num: 13
Candidate Starts for FarmResident_1:
(10, 123), (Start: 13 @129 has 37 MA's), (Start: 18 @150 has 1 MA's), (19, 153), (25, 183), (30, 246), (60, 411),

Gene: Finemlucis_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Finemlucis_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Finnry_2 Start: 465, Stop: 842, Start Num: 13
Candidate Starts for Finnry_2:
(Start: 13 @465 has 37 MA's), (30, 570), (40, 639), (58, 726), (60, 735), (62, 741),

Gene: Footloose_1 Start: 79, Stop: 444, Start Num: 17
Candidate Starts for Footloose_1:
(9, 58), (16, 76), (Start: 17 @79 has 1 MA's), (Start: 20 @94 has 12 MA's), (21, 103), (27, 148), (30, 184), (34, 223), (37, 229), (48, 271), (60, 349),

Gene: Gabriela_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Gabriela_2:
(Start: 13 @477 has 37 MA's), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Gardann_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Gardann_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: GuuelaD_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for GuuelaD_2:
(Start: 13 @477 has 37 MA's), (23, 525), (25, 531), (30, 594), (33, 603), (49, 693), (55, 735), (56, 738), (60, 759),

Gene: Hafay_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Hafay_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Hughesyang_8 Start: 2938, Stop: 3312, Start Num: 20
Candidate Starts for Hughesyang_8:

(1, 2731), (2, 2740), (5, 2851), (11, 2905), (Start: 20 @2938 has 12 MA's), (41, 3097), (52, 3157), (53, 3160), (60, 3193),

Gene: Hum25_1 Start: 52, Stop: 471, Start Num: 18
Candidate Starts for Hum25_1:
(Start: 18 @52 has 1 MA's), (29, 130), (38, 202), (42, 223), (47, 238), (51, 286), (59, 316), (61, 325), (64, 343), (66, 427),

Gene: Ibrahim_2 Start: 332, Stop: 724, Start Num: 7
Candidate Starts for Ibrahim_2:
(Start: 7 @332 has 7 MA's), (35, 500), (39, 515), (46, 533), (50, 572),

Gene: Itos_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Itos_2:
(Start: 13 @477 has 37 MA's), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Jobypre_2 Start: 481, Stop: 852, Start Num: 14
Candidate Starts for Jobypre_2:
(Start: 14 @481 has 10 MA's), (25, 517), (30, 580), (40, 649), (56, 724), (60, 745),

Gene: Jubie_2 Start: 481, Stop: 852, Start Num: 14
Candidate Starts for Jubie_2:
(Start: 14 @481 has 10 MA's), (25, 517), (30, 580), (40, 649), (56, 724), (60, 745),

Gene: Kahlid_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Kahlid_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Kalah2_9 Start: 3357, Stop: 3731, Start Num: 20
Candidate Starts for Kalah2_9:
(1, 3150), (2, 3159), (5, 3270), (11, 3324), (Start: 20 @3357 has 12 MA's), (41, 3516), (52, 3576), (53, 3579), (60, 3612),

Gene: Kingsolomon_2 Start: 481, Stop: 852, Start Num: 14
Candidate Starts for Kingsolomon_2:
(Start: 14 @481 has 10 MA's), (25, 517), (30, 580), (40, 649), (56, 724), (60, 745),

Gene: KirDoubleO7_2 Start: 493, Stop: 864, Start Num: 14
Candidate Starts for KirDoubleO7_2:
(Start: 14 @493 has 10 MA's), (25, 529), (30, 592), (40, 661), (60, 757),

Gene: Krypton555_2 Start: 464, Stop: 841, Start Num: 13
Candidate Starts for Krypton555_2:
(Start: 12 @461 has 1 MA's), (Start: 13 @464 has 37 MA's), (30, 569), (40, 638), (58, 725), (60, 734), (62, 740),

Gene: Lewan_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Lewan_2:
(Start: 13 @477 has 37 MA's), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: LilDestine_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for LilDestine_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: LiyuLake_2 Start: 466, Stop: 855, Start Num: 13
Candidate Starts for LiyuLake_2:
(Start: 13 @466 has 37 MA's), (25, 520), (30, 583), (40, 652), (60, 748),

Gene: Loadrie_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Loadrie_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Lolly9_2 Start: 481, Stop: 852, Start Num: 14
Candidate Starts for Lolly9_2:
(Start: 14 @481 has 10 MA's), (25, 517), (30, 580), (40, 649), (58, 736), (60, 745),

Gene: Lumos_2 Start: 481, Stop: 852, Start Num: 14
Candidate Starts for Lumos_2:
(Start: 14 @481 has 10 MA's), (25, 517), (30, 580), (40, 649), (56, 724), (60, 745),

Gene: Mendokysei_1 Start: 90, Stop: 485, Start Num: 7
Candidate Starts for Mendokysei_1:
(3, 18), (Start: 7 @90 has 7 MA's), (45, 288), (46, 291), (50, 330), (60, 384),

Gene: Miley16_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Miley16_2:
(Start: 13 @477 has 37 MA's), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Minerva_8 Start: 2817, Stop: 3191, Start Num: 20
Candidate Starts for Minerva_8:
(1, 2610), (2, 2619), (5, 2730), (11, 2784), (Start: 20 @2817 has 12 MA's), (41, 2976), (52, 3036), (53, 3039), (60, 3072),

Gene: MiniLon_2 Start: 481, Stop: 852, Start Num: 14
Candidate Starts for MiniLon_2:
(Start: 14 @481 has 10 MA's), (25, 517), (30, 580), (40, 649), (58, 736), (60, 745),

Gene: MiniMac_2 Start: 481, Stop: 852, Start Num: 14
Candidate Starts for MiniMac_2:
(Start: 14 @481 has 10 MA's), (30, 580), (40, 649), (58, 736), (60, 745),

Gene: MkaliMitinis3_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for MkaliMitinis3_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Moostard_2 Start: 465, Stop: 842, Start Num: 13
Candidate Starts for Moostard_2:
(Start: 13 @465 has 37 MA's), (30, 570), (40, 639), (58, 726), (60, 735), (62, 741),

Gene: MsGreen_2 Start: 481, Stop: 852, Start Num: 14
Candidate Starts for MsGreen_2:
(Start: 14 @481 has 10 MA's), (25, 517), (30, 580), (40, 649), (56, 724), (60, 745),

Gene: Nairb_2 Start: 332, Stop: 724, Start Num: 7
Candidate Starts for Nairb_2:
(Start: 7 @332 has 7 MA's), (35, 500), (39, 515), (46, 533), (50, 572),

Gene: Netyap_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Netyap_2:
(Start: 13 @477 has 37 MA's), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Nicholas_2 Start: 481, Stop: 852, Start Num: 14
Candidate Starts for Nicholas_2:
(Start: 14 @481 has 10 MA's), (25, 517), (30, 580), (40, 649), (56, 724), (60, 745),

Gene: Nicholasp3_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Nicholasp3_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Odette_8 Start: 2296, Stop: 2670, Start Num: 20
Candidate Starts for Odette_8:
(1, 2089), (2, 2098), (5, 2209), (Start: 20 @2296 has 12 MA's), (41, 2455), (52, 2515), (53, 2518), (60, 2551),

Gene: Optimus_6 Start: 2323, Stop: 2697, Start Num: 20
Candidate Starts for Optimus_6:
(Start: 20 @2323 has 12 MA's), (41, 2482), (52, 2542), (53, 2545), (60, 2578),

Gene: P3MA_1 Start: 159, Stop: 587, Start Num: 6
Candidate Starts for P3MA_1:
(Start: 6 @159 has 1 MA's), (28, 255), (31, 291), (44, 366), (54, 444),

Gene: PYPDinur_1 Start: 129, Stop: 518, Start Num: 13
Candidate Starts for PYPDinur_1:
(4, 45), (10, 123), (Start: 13 @129 has 37 MA's), (Start: 18 @150 has 1 MA's), (19, 153), (25, 183), (30, 246), (60, 411), (63, 426),

Gene: Phoebus_9 Start: 3043, Stop: 3417, Start Num: 20
Candidate Starts for Phoebus_9:
(1, 2836), (2, 2845), (5, 2956), (Start: 20 @3043 has 12 MA's), (41, 3202), (52, 3262), (53, 3265), (60, 3298),

Gene: Quby_1 Start: 129, Stop: 518, Start Num: 13
Candidate Starts for Quby_1:
(10, 123), (Start: 13 @129 has 37 MA's), (Start: 18 @150 has 1 MA's), (19, 153), (25, 183), (30, 246), (60, 411),

Gene: RonRayGun_2 Start: 332, Stop: 724, Start Num: 7
Candidate Starts for RonRayGun_2:
(Start: 7 @332 has 7 MA's), (35, 500), (39, 515), (46, 533), (50, 572),

Gene: Rumpelstiltskin_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Rumpelstiltskin_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Samty_2 Start: 465, Stop: 842, Start Num: 13
Candidate Starts for Samty_2:
(Start: 13 @465 has 37 MA's), (30, 570), (40, 639), (58, 726), (60, 735), (62, 741),

Gene: Sarshaun_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Sarshaun_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Sheng711_1 Start: 129, Stop: 518, Start Num: 13
Candidate Starts for Sheng711_1:
(4, 45), (10, 123), (Start: 13 @129 has 37 MA's), (Start: 18 @150 has 1 MA's), (19, 153), (25, 183), (30, 246), (60, 411), (63, 426),

Gene: Snenia_2 Start: 481, Stop: 852, Start Num: 14
Candidate Starts for Snenia_2:
(Start: 14 @481 has 10 MA's), (25, 517), (30, 580), (40, 649), (56, 724), (60, 745),

Gene: Soap141_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Soap141_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Thibault_5 Start: 2323, Stop: 2697, Start Num: 20
Candidate Starts for Thibault_5:
(Start: 20 @2323 has 12 MA's), (41, 2482), (52, 2542), (53, 2545), (60, 2578),

Gene: ThreeRngTarjay_8 Start: 2813, Stop: 3187, Start Num: 20
Candidate Starts for ThreeRngTarjay_8:
(1, 2606), (2, 2615), (5, 2726), (11, 2780), (Start: 20 @2813 has 12 MA's), (41, 2972), (52, 3032), (53, 3035), (60, 3068),

Gene: Tourach_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Tourach_2:
(Start: 13 @477 has 37 MA's), (24, 528), (26, 546), (30, 594), (40, 663), (49, 693), (56, 738), (60, 759), (63, 774),

Gene: Vetrix_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Vetrix_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Whirlwind_3 Start: 461, Stop: 841, Start Num: 12
Candidate Starts for Whirlwind_3:
(Start: 12 @461 has 1 MA's), (Start: 13 @464 has 37 MA's), (30, 569), (40, 638), (58, 725), (60, 734),

Gene: Whitty_2 Start: 332, Stop: 724, Start Num: 7
Candidate Starts for Whitty_2:
(Start: 7 @332 has 7 MA's), (35, 500), (39, 515), (46, 533), (50, 572),

Gene: Wigglewiggle_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Wigglewiggle_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Wilder_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Wilder_2:
(Start: 13 @477 has 37 MA's), (26, 546), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Winky_2 Start: 477, Stop: 866, Start Num: 13
Candidate Starts for Winky_2:

(Start: 13 @477 has 37 MA's), (30, 594), (41, 666), (56, 738), (60, 759),

Gene: Zakai_2 Start: 465, Stop: 854, Start Num: 13
Candidate Starts for Zakai_2:
(Start: 13 @465 has 37 MA's), (30, 582), (41, 654), (56, 726), (60, 747),

Gene: ZenTime222_2 Start: 332, Stop: 724, Start Num: 7
Candidate Starts for ZenTime222_2:
(Start: 7 @332 has 7 MA's), (35, 500), (39, 515), (46, 533), (50, 572),

Gene: ZhongYanYuan_2 Start: 489, Stop: 878, Start Num: 13
Candidate Starts for ZhongYanYuan_2:
(Start: 13 @489 has 37 MA's), (22, 531), (24, 540), (30, 606), (33, 615), (49, 705), (56, 750), (60, 771),