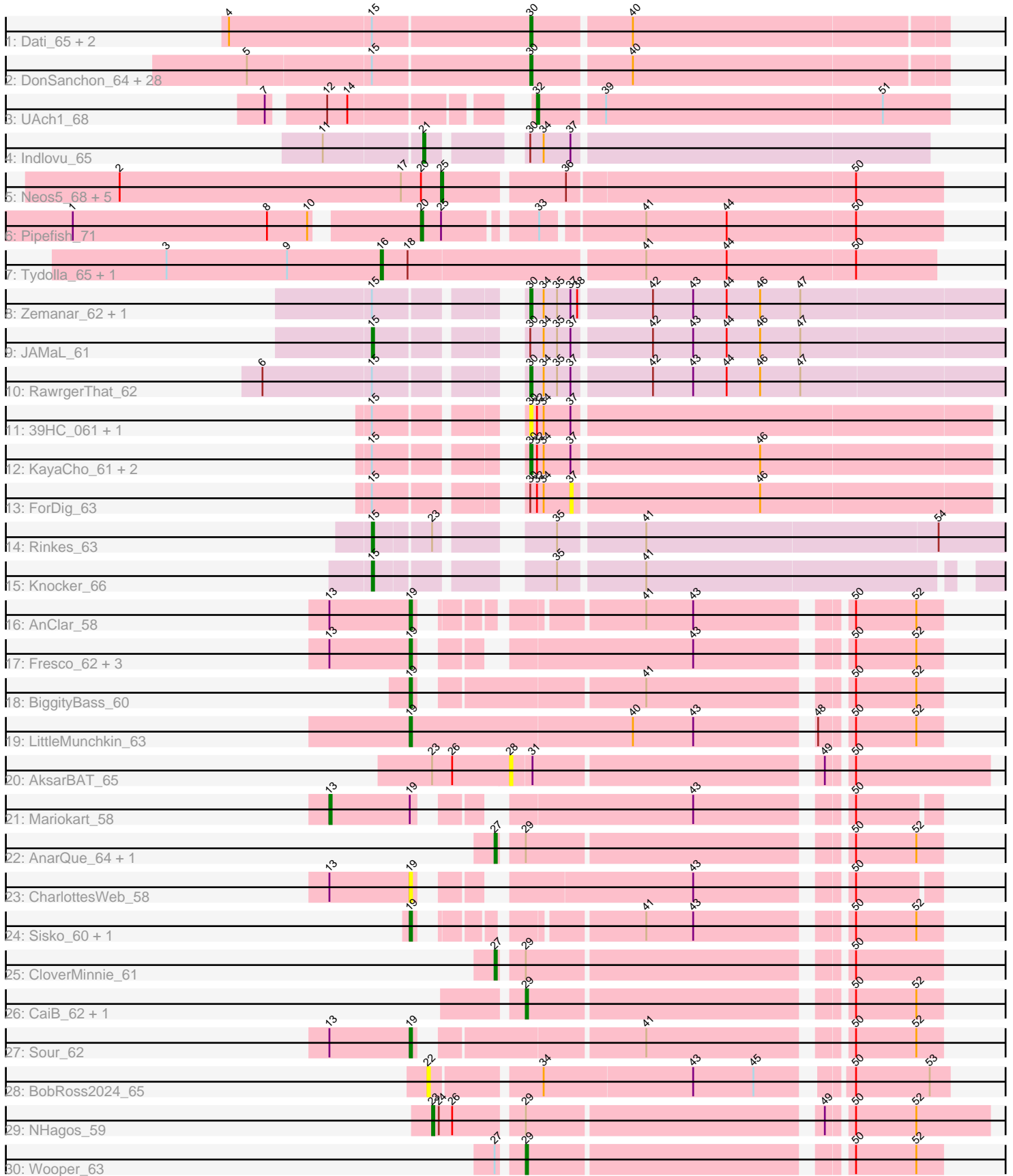


Pham 224531



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 224531 Report

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

Pham number 224531 has 76 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Dati_65, Melc17_65, BlueHusk_69
- Track 2 : DonSanchon_64, TooFast2Furius_69, GeneCoco_68, Dingo_65, MiniBoss_65, Grand2040_66, Lasso_67, Hamish_65, AltPhacts_66, Mikota_65, MelsMeow_67, Potter_65, Chorkpop_68, Maskar_68, BlackStallion_68, Nathan_68, Phareon_66, Sheila_64, Adriana_69, ElvisPhasley_73, ImtiyazSitla_68, Horchata_65, Caspiboi_69, Scrick_67, Inverness_66, Buckeye_68, Basato_67, Ashraf_68, Gyarad_0067
- Track 3 : UAch1_68
- Track 4 : Indlovu_65
- Track 5 : Neos5_68, SlippinJimmy_71, Marley1013_69, Obutu_70, Briakila_68, Phayeta_71
- Track 6 : Pipefish_71
- Track 7 : Tydolla_65, HarveySr_67
- Track 8 : Zemanar_62, Heath_60
- Track 9 : JAMaL_61
- Track 10 : RawrgerThat_62
- Track 11 : 39HC_061, 40BC_061
- Track 12 : KayaCho_61, Hosp_059, Jolie1_061
- Track 13 : ForDig_63
- Track 14 : Rinkes_63
- Track 15 : Knocker_66
- Track 16 : AnClar_58
- Track 17 : Fresco_62, Axumite_62, Shatter_62, Ligma_62
- Track 18 : BiggityBass_60
- Track 19 : LittleMunchkin_63
- Track 20 : AksarBAT_65
- Track 21 : Mariokart_58
- Track 22 : AnarQue_64, Yeshua_63
- Track 23 : CharlottesWeb_58
- Track 24 : Sisko_60, Yago84_59
- Track 25 : CloverMinnie_61
- Track 26 : CaiB_62, MakoManhole_59
- Track 27 : Sour_62
- Track 28 : BobRoss2024_65
- Track 29 : NHagos_59
- Track 30 : Wooper_63

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

The start number called the most often in the published annotations is 30, it was called in 32 of the 62 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 39HC_061, 40BC_061, Adriana_69, AltPhacts_66, Ashraf_68, Basato_67, BlackStallion_68, BlueHusk_69, Buckeye_68, Caspiboi_69, Chorkpop_68, Dati_65, Dingo_65, DonSanchon_64, ElvisPhasley_73, GeneCoco_68, Grand2040_66, Gyarad_0067, Hamish_65, Heath_60, Horchata_65, Hosp_059, ImtiyazSitla_68, Inverness_66, Jolie1_061, KayaCho_61, Lasso_67, Maskar_68, Melc17_65, MelsMeow_67, Mikota_65, MiniBoss_65, Nathan_68, Phareon_66, Potter_65, RawrgerThat_62, Scrick_67, Sheila_64, TooFast2Furius_69, Zemanar_62,

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

- ForDig_63, Indlovu_65, JAMaL_61,

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

- AksarBAT_65, AnClar_58, AnarQue_64, Axumite_62, BiggityBass_60, BobRoss2024_65, Briakila_68, CaiB_62, CharlottesWeb_58, CloverMinnie_61, Fresco_62, HarveySr_67, Knocker_66, Ligma_62, LittleMunchkin_63, MakoManhole_59, Mariokart_58, Marley1013_69, NHagos_59, Neos5_68, Obutu_70, Phayeta_71, Pipefish_71, Rinkes_63, Shatter_62, Sisko_60, SlippinJimmy_71, Sour_62, Tydolla_65, UAch1_68, Wooper_63, Yago84_59, Yeshua_63,

Summary by start number:

Start 13:

- Found in 8 of 76 (10.5%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Mariokart_58 (DR),

Start 15:

- Found in 44 of 76 (57.9%) of genes in pham
- Manual Annotations of this start: 3 of 62
- Called 6.8% of time when present
- Phage (with cluster) where this start called: JAMaL_61 (B4), Knocker_66 (B9), Rinkes_63 (B9),

Start 16:

- Found in 2 of 76 (2.6%) of genes in pham
- Manual Annotations of this start: 2 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: HarveySr_67 (B3), Tydolla_65 (B3),

Start 19:

- Found in 12 of 76 (15.8%) of genes in pham
- Manual Annotations of this start: 10 of 62
- Called 91.7% of time when present

- Phage (with cluster) where this start called: AnClar_58 (DR), Axumite_62 (DR), BiggityBass_60 (DR), CharlottesWeb_58 (DR), Fresco_62 (DR), Ligma_62 (DR), LittleMunchkin_63 (DR), Shatter_62 (DR), Sisko_60 (DR), Sour_62 (DR), Yago84_59 (DR),

Start 20:

- Found in 7 of 76 (9.2%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Pipefish_71 (B3),

Start 21:

- Found in 1 of 76 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Indlovu_65 (B11),

Start 22:

- Found in 1 of 76 (1.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BobRoss2024_65 (DR),

Start 23:

- Found in 3 of 76 (3.9%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 33.3% of time when present
- Phage (with cluster) where this start called: NHagos_59 (DR),

Start 25:

- Found in 7 of 76 (9.2%) of genes in pham
- Manual Annotations of this start: 5 of 62
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Briakila_68 (B3), Marley1013_69 (B3), Neos5_68 (B3), Obutu_70 (B3), Phayeta_71 (B3), SlippinJimmy_71 (B3),

Start 27:

- Found in 4 of 76 (5.3%) of genes in pham
- Manual Annotations of this start: 2 of 62
- Called 75.0% of time when present
- Phage (with cluster) where this start called: AnarQue_64 (DR), CloverMinnie_61 (DR), Yeshua_63 (DR),

Start 28:

- Found in 1 of 76 (1.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AksarBAT_65 (DR),

Start 29:

- Found in 7 of 76 (9.2%) of genes in pham
- Manual Annotations of this start: 3 of 62
- Called 42.9% of time when present

- Phage (with cluster) where this start called: CaiB_62 (DR), MakoManhole_59 (DR), Wooper_63 (DR),

Start 30:

- Found in 43 of 76 (56.6%) of genes in pham
- Manual Annotations of this start: 32 of 62
- Called 93.0% of time when present
- Phage (with cluster) where this start called: 39HC_061 (B6), 40BC_061 (B6), Adriana_69 (B1), AltPhacts_66 (B1), Ashraf_68 (B1), Basato_67 (B1), BlackStallion_68 (B1), BlueHusk_69 (B1), Buckeye_68 (B1), CaspiBoi_69 (B1), Chorkpop_68 (B1), Dati_65 (B1), Dingo_65 (B1), DonSancho_64 (B1), ElvisPhasley_73 (B1), GeneCoco_68 (B1), Grand2040_66 (B1), Gyarad_0067 (B1), Hamish_65 (B1), Heath_60 (B4), Horchata_65 (B1), Hosp_059 (B6), ImtiyazSitla_68 (B1), Inverness_66 (B1), Jolie1_061 (B6), KayaCho_61 (B6), Lasso_67 (B1), Maskar_68 (B1), Melc17_65 (B1), MelsMeow_67 (B1), Mikota_65 (B1), MiniBoss_65 (B1), Nathan_68 (B1), Phareon_66 (B1), Potter_65 (B1), RawrgerThat_62 (B4), Scrick_67 (B1), Sheila_64 (B1), TooFast2Furious_69 (B1), Zemanar_62 (B4),

Start 32:

- Found in 7 of 76 (9.2%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 14.3% of time when present
- Phage (with cluster) where this start called: UAch1_68 (B1),

Start 37:

- Found in 11 of 76 (14.5%) of genes in pham
- No Manual Annotations of this start.
- Called 9.1% of time when present
- Phage (with cluster) where this start called: ForDig_63 (B6),

Summary by clusters:

There are 7 clusters represented in this pham: B11, B4, B6, B1, B3, DR, B9,

Info for manual annotations of cluster B1:

- Start number 30 was manually annotated 28 times for cluster B1.
- Start number 32 was manually annotated 1 time for cluster B1.

Info for manual annotations of cluster B11:

- Start number 21 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B3:

- Start number 16 was manually annotated 2 times for cluster B3.
- Start number 20 was manually annotated 1 time for cluster B3.
- Start number 25 was manually annotated 5 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 15 was manually annotated 1 time for cluster B4.
- Start number 30 was manually annotated 3 times for cluster B4.

Info for manual annotations of cluster B6:

- Start number 30 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B9:

- Start number 15 was manually annotated 2 times for cluster B9.

Info for manual annotations of cluster DR:

- Start number 13 was manually annotated 1 time for cluster DR.
- Start number 19 was manually annotated 10 times for cluster DR.
- Start number 23 was manually annotated 1 time for cluster DR.
- Start number 27 was manually annotated 2 times for cluster DR.
- Start number 29 was manually annotated 3 times for cluster DR.

Gene Information:

Gene: 39HC_061 Start: 56330, Stop: 56530, Start Num: 30

Candidate Starts for 39HC_061:

(Start: 15 @56279 has 3 MA's), (Start: 30 @56330 has 32 MA's), (Start: 32 @56333 has 1 MA's), (34, 56336), (37, 56348),

Gene: 40BC_061 Start: 56330, Stop: 56530, Start Num: 30

Candidate Starts for 40BC_061:

(Start: 15 @56279 has 3 MA's), (Start: 30 @56330 has 32 MA's), (Start: 32 @56333 has 1 MA's), (34, 56336), (37, 56348),

Gene: Adriana_69 Start: 57994, Stop: 58173, Start Num: 30

Candidate Starts for Adriana_69:

(5, 57871), (Start: 15 @57925 has 3 MA's), (Start: 30 @57994 has 32 MA's), (40, 58036),

Gene: AksarBAT_65 Start: 51976, Stop: 52173, Start Num: 28

Candidate Starts for AksarBAT_65:

(Start: 23 @51946 has 1 MA's), (26, 51955), (28, 51976), (31, 51985), (49, 52105), (50, 52114),

Gene: AltPhacts_66 Start: 56481, Stop: 56660, Start Num: 30

Candidate Starts for AltPhacts_66:

(5, 56358), (Start: 15 @56412 has 3 MA's), (Start: 30 @56481 has 32 MA's), (40, 56523),

Gene: AnClar_58 Start: 51779, Stop: 51976, Start Num: 19

Candidate Starts for AnClar_58:

(Start: 13 @51743 has 1 MA's), (Start: 19 @51779 has 10 MA's), (41, 51857), (43, 51878), (50, 51938), (52, 51965),

Gene: AnarQue_64 Start: 52219, Stop: 52398, Start Num: 27

Candidate Starts for AnarQue_64:

(Start: 27 @52219 has 2 MA's), (Start: 29 @52228 has 3 MA's), (50, 52360), (52, 52387),

Gene: Ashraf_68 Start: 57146, Stop: 57325, Start Num: 30

Candidate Starts for Ashraf_68:

(5, 57023), (Start: 15 @57077 has 3 MA's), (Start: 30 @57146 has 32 MA's), (40, 57188),

Gene: Axumite_62 Start: 50626, Stop: 50826, Start Num: 19

Candidate Starts for Axumite_62:

(Start: 13 @50590 has 1 MA's), (Start: 19 @50626 has 10 MA's), (43, 50728), (50, 50788), (52, 50815),

Gene: Basato_67 Start: 57199, Stop: 57378, Start Num: 30
Candidate Starts for Basato_67:
(5, 57076), (Start: 15 @57130 has 3 MA's), (Start: 30 @57199 has 32 MA's), (40, 57241),

Gene: BiggityBass_60 Start: 52323, Stop: 52532, Start Num: 19
Candidate Starts for BiggityBass_60:
(Start: 19 @52323 has 10 MA's), (41, 52413), (50, 52494), (52, 52521),

Gene: BlackStallion_68 Start: 57193, Stop: 57372, Start Num: 30
Candidate Starts for BlackStallion_68:
(5, 57070), (Start: 15 @57124 has 3 MA's), (Start: 30 @57193 has 32 MA's), (40, 57235),

Gene: BlueHusk_69 Start: 56949, Stop: 57128, Start Num: 30
Candidate Starts for BlueHusk_69:
(4, 56817), (Start: 15 @56880 has 3 MA's), (Start: 30 @56949 has 32 MA's), (40, 56991),

Gene: BobRoss2024_65 Start: 51837, Stop: 52049, Start Num: 22
Candidate Starts for BobRoss2024_65:
(22, 51837), (34, 51882), (43, 51948), (45, 51975), (50, 52008), (53, 52041),

Gene: Briakila_68 Start: 57517, Stop: 57732, Start Num: 25
Candidate Starts for Briakila_68:
(2, 57373), (17, 57499), (Start: 20 @57508 has 1 MA's), (Start: 25 @57517 has 5 MA's), (36, 57568),
(50, 57694),

Gene: Buckeye_68 Start: 58013, Stop: 58192, Start Num: 30
Candidate Starts for Buckeye_68:
(5, 57890), (Start: 15 @57944 has 3 MA's), (Start: 30 @58013 has 32 MA's), (40, 58055),

Gene: CaiB_62 Start: 52012, Stop: 52182, Start Num: 29
Candidate Starts for CaiB_62:
(Start: 29 @52012 has 3 MA's), (50, 52144), (52, 52171),

Gene: Caspiboi_69 Start: 57156, Stop: 57335, Start Num: 30
Candidate Starts for Caspiboi_69:
(5, 57033), (Start: 15 @57087 has 3 MA's), (Start: 30 @57156 has 32 MA's), (40, 57198),

Gene: CharlottesWeb_58 Start: 49213, Stop: 49410, Start Num: 19
Candidate Starts for CharlottesWeb_58:
(Start: 13 @49177 has 1 MA's), (Start: 19 @49213 has 10 MA's), (43, 49315), (50, 49375),

Gene: Chorkpop_68 Start: 56930, Stop: 57109, Start Num: 30
Candidate Starts for Chorkpop_68:
(5, 56807), (Start: 15 @56861 has 3 MA's), (Start: 30 @56930 has 32 MA's), (40, 56972),

Gene: CloverMinnie_61 Start: 51166, Stop: 51345, Start Num: 27
Candidate Starts for CloverMinnie_61:
(Start: 27 @51166 has 2 MA's), (Start: 29 @51175 has 3 MA's), (50, 51307),

Gene: Dati_65 Start: 57259, Stop: 57438, Start Num: 30
Candidate Starts for Dati_65:
(4, 57127), (Start: 15 @57190 has 3 MA's), (Start: 30 @57259 has 32 MA's), (40, 57301),

Gene: Dingo_65 Start: 56457, Stop: 56636, Start Num: 30

Candidate Starts for Dingo_65:

(5, 56334), (Start: 15 @56388 has 3 MA's), (Start: 30 @56457 has 32 MA's), (40, 56499),

Gene: DonSanchon_64 Start: 56612, Stop: 56791, Start Num: 30

Candidate Starts for DonSanchon_64:

(5, 56489), (Start: 15 @56543 has 3 MA's), (Start: 30 @56612 has 32 MA's), (40, 56654),

Gene: ElvisPhasley_73 Start: 57946, Stop: 58125, Start Num: 30

Candidate Starts for ElvisPhasley_73:

(5, 57823), (Start: 15 @57877 has 3 MA's), (Start: 30 @57946 has 32 MA's), (40, 57988),

Gene: ForDig_63 Start: 56660, Stop: 56842, Start Num: 37

Candidate Starts for ForDig_63:

(Start: 15 @56591 has 3 MA's), (Start: 30 @56642 has 32 MA's), (Start: 32 @56645 has 1 MA's), (34, 56648), (37, 56660), (46, 56741),

Gene: Fresco_62 Start: 50626, Stop: 50826, Start Num: 19

Candidate Starts for Fresco_62:

(Start: 13 @50590 has 1 MA's), (Start: 19 @50626 has 10 MA's), (43, 50728), (50, 50788), (52, 50815),

Gene: GeneCoco_68 Start: 57462, Stop: 57641, Start Num: 30

Candidate Starts for GeneCoco_68:

(5, 57339), (Start: 15 @57393 has 3 MA's), (Start: 30 @57462 has 32 MA's), (40, 57504),

Gene: Grand2040_66 Start: 57405, Stop: 57584, Start Num: 30

Candidate Starts for Grand2040_66:

(5, 57282), (Start: 15 @57336 has 3 MA's), (Start: 30 @57405 has 32 MA's), (40, 57447),

Gene: Gyarad_0067 Start: 56782, Stop: 56961, Start Num: 30

Candidate Starts for Gyarad_0067:

(5, 56659), (Start: 15 @56713 has 3 MA's), (Start: 30 @56782 has 32 MA's), (40, 56824),

Gene: Hamish_65 Start: 56845, Stop: 57024, Start Num: 30

Candidate Starts for Hamish_65:

(5, 56722), (Start: 15 @56776 has 3 MA's), (Start: 30 @56845 has 32 MA's), (40, 56887),

Gene: HarveySr_67 Start: 56727, Stop: 56969, Start Num: 16

Candidate Starts for HarveySr_67:

(3, 56631), (9, 56685), (Start: 16 @56727 has 2 MA's), (18, 56739), (41, 56841), (44, 56877), (50, 56934),

Gene: Heath_60 Start: 57720, Stop: 57938, Start Num: 30

Candidate Starts for Heath_60:

(Start: 15 @57669 has 3 MA's), (Start: 30 @57720 has 32 MA's), (34, 57726), (35, 57732), (37, 57738), (38, 57741), (42, 57771), (43, 57789), (44, 57804), (46, 57819), (47, 57837),

Gene: Horchata_65 Start: 56937, Stop: 57116, Start Num: 30

Candidate Starts for Horchata_65:

(5, 56814), (Start: 15 @56868 has 3 MA's), (Start: 30 @56937 has 32 MA's), (40, 56979),

Gene: Hosp_059 Start: 54555, Stop: 54755, Start Num: 30

Candidate Starts for Hosp_059:

(Start: 15 @54504 has 3 MA's), (Start: 30 @54555 has 32 MA's), (Start: 32 @54558 has 1 MA's), (34, 54561), (37, 54573), (46, 54654),

Gene: ImtiyazSitla_68 Start: 57146, Stop: 57325, Start Num: 30

Candidate Starts for ImtiyazSitla_68:

(5, 57023), (Start: 15 @57077 has 3 MA's), (Start: 30 @57146 has 32 MA's), (40, 57188),

Gene: Indlovu_65 Start: 58320, Stop: 58526, Start Num: 21

Candidate Starts for Indlovu_65:

(11, 58278), (Start: 21 @58320 has 1 MA's), (Start: 30 @58353 has 32 MA's), (34, 58359), (37, 58371),

Gene: Inverness_66 Start: 56946, Stop: 57125, Start Num: 30

Candidate Starts for Inverness_66:

(5, 56823), (Start: 15 @56877 has 3 MA's), (Start: 30 @56946 has 32 MA's), (40, 56988),

Gene: JAMaL_61 Start: 58031, Stop: 58300, Start Num: 15

Candidate Starts for JAMaL_61:

(Start: 15 @58031 has 3 MA's), (Start: 30 @58082 has 32 MA's), (34, 58088), (35, 58094), (37, 58100), (42, 58133), (43, 58151), (44, 58166), (46, 58181), (47, 58199),

Gene: Jolie1_061 Start: 56473, Stop: 56673, Start Num: 30

Candidate Starts for Jolie1_061:

(Start: 15 @56422 has 3 MA's), (Start: 30 @56473 has 32 MA's), (Start: 32 @56476 has 1 MA's), (34, 56479), (37, 56491), (46, 56572),

Gene: KayaCho_61 Start: 56583, Stop: 56783, Start Num: 30

Candidate Starts for KayaCho_61:

(Start: 15 @56532 has 3 MA's), (Start: 30 @56583 has 32 MA's), (Start: 32 @56586 has 1 MA's), (34, 56589), (37, 56601), (46, 56682),

Gene: Knocker_66 Start: 59276, Stop: 59527, Start Num: 15

Candidate Starts for Knocker_66:

(Start: 15 @59276 has 3 MA's), (35, 59339), (41, 59375),

Gene: Lasso_67 Start: 57164, Stop: 57343, Start Num: 30

Candidate Starts for Lasso_67:

(5, 57041), (Start: 15 @57095 has 3 MA's), (Start: 30 @57164 has 32 MA's), (40, 57206),

Gene: Ligma_62 Start: 50626, Stop: 50826, Start Num: 19

Candidate Starts for Ligma_62:

(Start: 13 @50590 has 1 MA's), (Start: 19 @50626 has 10 MA's), (43, 50728), (50, 50788), (52, 50815),

Gene: LittleMunchkin_63 Start: 53357, Stop: 53581, Start Num: 19

Candidate Starts for LittleMunchkin_63:

(Start: 19 @53357 has 10 MA's), (40, 53456), (43, 53483), (48, 53531), (50, 53543), (52, 53570),

Gene: MakoManhole_59 Start: 50530, Stop: 50700, Start Num: 29

Candidate Starts for MakoManhole_59:

(Start: 29 @50530 has 3 MA's), (50, 50662), (52, 50689),

Gene: Mariokart_58 Start: 49462, Stop: 49695, Start Num: 13

Candidate Starts for Mariokart_58:

(Start: 13 @49462 has 1 MA's), (Start: 19 @49498 has 10 MA's), (43, 49600), (50, 49660),

Gene: Marley1013_69 Start: 58226, Stop: 58441, Start Num: 25

Candidate Starts for Marley1013_69:

(2, 58082), (17, 58208), (Start: 20 @58217 has 1 MA's), (Start: 25 @58226 has 5 MA's), (36, 58277), (50, 58403),

Gene: Maskar_68 Start: 57146, Stop: 57325, Start Num: 30

Candidate Starts for Maskar_68:

(5, 57023), (Start: 15 @57077 has 3 MA's), (Start: 30 @57146 has 32 MA's), (40, 57188),

Gene: Melc17_65 Start: 57547, Stop: 57726, Start Num: 30

Candidate Starts for Melc17_65:

(4, 57415), (Start: 15 @57478 has 3 MA's), (Start: 30 @57547 has 32 MA's), (40, 57589),

Gene: MelsMeow_67 Start: 57199, Stop: 57378, Start Num: 30

Candidate Starts for MelsMeow_67:

(5, 57076), (Start: 15 @57130 has 3 MA's), (Start: 30 @57199 has 32 MA's), (40, 57241),

Gene: Mikota_65 Start: 56445, Stop: 56624, Start Num: 30

Candidate Starts for Mikota_65:

(5, 56322), (Start: 15 @56376 has 3 MA's), (Start: 30 @56445 has 32 MA's), (40, 56487),

Gene: MiniBoss_65 Start: 56250, Stop: 56429, Start Num: 30

Candidate Starts for MiniBoss_65:

(5, 56127), (Start: 15 @56181 has 3 MA's), (Start: 30 @56250 has 32 MA's), (40, 56292),

Gene: NHagos_59 Start: 49828, Stop: 50055, Start Num: 23

Candidate Starts for NHagos_59:

(Start: 23 @49828 has 1 MA's), (24, 49831), (26, 49837), (Start: 29 @49864 has 3 MA's), (49, 49987), (50, 49996), (52, 50023),

Gene: Nathan_68 Start: 57281, Stop: 57460, Start Num: 30

Candidate Starts for Nathan_68:

(5, 57158), (Start: 15 @57212 has 3 MA's), (Start: 30 @57281 has 32 MA's), (40, 57323),

Gene: Neos5_68 Start: 57688, Stop: 57903, Start Num: 25

Candidate Starts for Neos5_68:

(2, 57544), (17, 57670), (Start: 20 @57679 has 1 MA's), (Start: 25 @57688 has 5 MA's), (36, 57739), (50, 57865),

Gene: Obutu_70 Start: 57908, Stop: 58123, Start Num: 25

Candidate Starts for Obutu_70:

(2, 57764), (17, 57890), (Start: 20 @57899 has 1 MA's), (Start: 25 @57908 has 5 MA's), (36, 57959), (50, 58085),

Gene: Phareon_66 Start: 56635, Stop: 56814, Start Num: 30

Candidate Starts for Phareon_66:

(5, 56512), (Start: 15 @56566 has 3 MA's), (Start: 30 @56635 has 32 MA's), (40, 56677),

Gene: Phayeta_71 Start: 57812, Stop: 58027, Start Num: 25

Candidate Starts for Phayeta_71:

(2, 57668), (17, 57794), (Start: 20 @57803 has 1 MA's), (Start: 25 @57812 has 5 MA's), (36, 57863), (50, 57989),

Gene: Pipefish_71 Start: 58442, Stop: 58660, Start Num: 20

Candidate Starts for Pipefish_71:

(1, 58295), (8, 58382), (10, 58400), (Start: 20 @58442 has 1 MA's), (Start: 25 @58451 has 5 MA's), (33, 58487), (41, 58529), (44, 58565), (50, 58622),

Gene: Potter_65 Start: 56927, Stop: 57106, Start Num: 30

Candidate Starts for Potter_65:

(5, 56804), (Start: 15 @56858 has 3 MA's), (Start: 30 @56927 has 32 MA's), (40, 56969),

Gene: RawrgerThat_62 Start: 58029, Stop: 58247, Start Num: 30

Candidate Starts for RawrgerThat_62:

(6, 57930), (Start: 15 @57978 has 3 MA's), (Start: 30 @58029 has 32 MA's), (34, 58035), (35, 58041), (37, 58047), (42, 58080), (43, 58098), (44, 58113), (46, 58128), (47, 58146),

Gene: Rinkes_63 Start: 57811, Stop: 58074, Start Num: 15

Candidate Starts for Rinkes_63:

(Start: 15 @57811 has 3 MA's), (Start: 23 @57835 has 1 MA's), (35, 57874), (41, 57910), (54, 58039),

Gene: Scrick_67 Start: 56929, Stop: 57108, Start Num: 30

Candidate Starts for Scrick_67:

(5, 56806), (Start: 15 @56860 has 3 MA's), (Start: 30 @56929 has 32 MA's), (40, 56971),

Gene: Shatter_62 Start: 50626, Stop: 50826, Start Num: 19

Candidate Starts for Shatter_62:

(Start: 13 @50590 has 1 MA's), (Start: 19 @50626 has 10 MA's), (43, 50728), (50, 50788), (52, 50815),

Gene: Sheila_64 Start: 56299, Stop: 56478, Start Num: 30

Candidate Starts for Sheila_64:

(5, 56176), (Start: 15 @56230 has 3 MA's), (Start: 30 @56299 has 32 MA's), (40, 56341),

Gene: Sisko_60 Start: 50847, Stop: 51044, Start Num: 19

Candidate Starts for Sisko_60:

(Start: 19 @50847 has 10 MA's), (41, 50925), (43, 50946), (50, 51006), (52, 51033),

Gene: SlippinJimmy_71 Start: 58709, Stop: 58924, Start Num: 25

Candidate Starts for SlippinJimmy_71:

(2, 58565), (17, 58691), (Start: 20 @58700 has 1 MA's), (Start: 25 @58709 has 5 MA's), (36, 58760), (50, 58886),

Gene: Sour_62 Start: 53064, Stop: 53273, Start Num: 19

Candidate Starts for Sour_62:

(Start: 13 @53028 has 1 MA's), (Start: 19 @53064 has 10 MA's), (41, 53154), (50, 53235), (52, 53262),

Gene: TooFast2Furius_69 Start: 57172, Stop: 57351, Start Num: 30

Candidate Starts for TooFast2Furius_69:

(5, 57049), (Start: 15 @57103 has 3 MA's), (Start: 30 @57172 has 32 MA's), (40, 57214),

Gene: Tydolla_65 Start: 57176, Stop: 57418, Start Num: 16

Candidate Starts for Tydolla_65:

(3, 57080), (9, 57134), (Start: 16 @57176 has 2 MA's), (18, 57188), (41, 57290), (44, 57326), (50, 57383),

Gene: UAch1_68 Start: 57127, Stop: 57306, Start Num: 32

Candidate Starts for UAch1_68:

(7, 57034), (12, 57055), (14, 57064), (Start: 32 @57127 has 1 MA's), (39, 57154), (51, 57277),

Gene: Wooper_63 Start: 51561, Stop: 51731, Start Num: 29

Candidate Starts for Wooper_63:

(Start: 27 @51552 has 2 MA's), (Start: 29 @51561 has 3 MA's), (50, 51693), (52, 51720),

Gene: Yago84_59 Start: 50332, Stop: 50529, Start Num: 19

Candidate Starts for Yago84_59:

(Start: 19 @50332 has 10 MA's), (41, 50410), (43, 50431), (50, 50491), (52, 50518),

Gene: Yeshua_63 Start: 51529, Stop: 51708, Start Num: 27

Candidate Starts for Yeshua_63:

(Start: 27 @51529 has 2 MA's), (Start: 29 @51538 has 3 MA's), (50, 51670), (52, 51697),

Gene: Zemanar_62 Start: 57920, Stop: 58138, Start Num: 30

Candidate Starts for Zemanar_62:

(Start: 15 @57869 has 3 MA's), (Start: 30 @57920 has 32 MA's), (34, 57926), (35, 57932), (37, 57938), (38, 57941), (42, 57971), (43, 57989), (44, 58004), (46, 58019), (47, 58037),