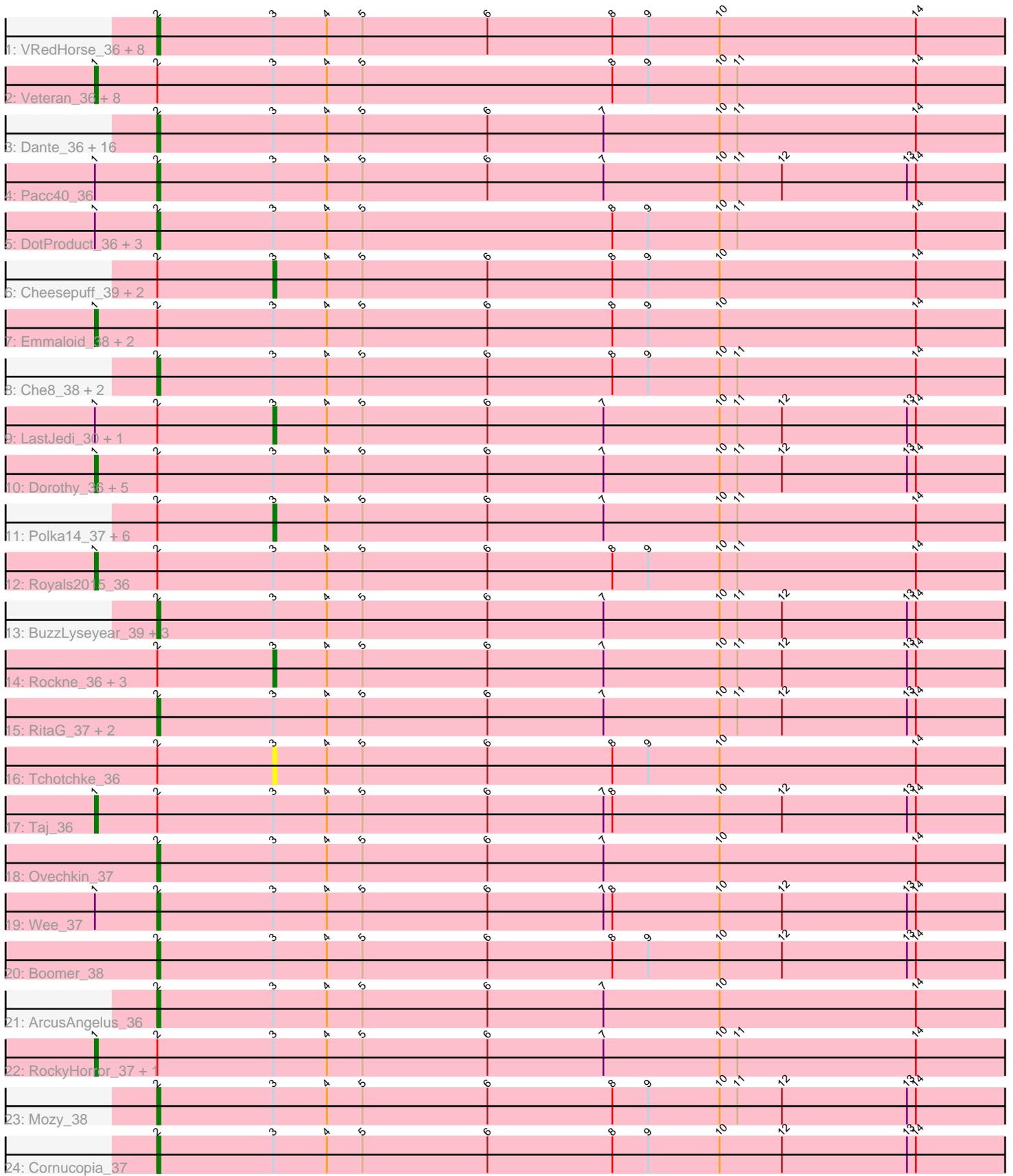# Pham 289314

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 289314 Report

This analysis was run 03/28/26 on database version 641.

Pham number 289314 has 86 members, 2 are drafts.

Phages represented in each track:
• Track 1 : VRedHorse_36, BigPhil_32, Modragons_36, Minnie_38, Cerasum_32, Quico_37, Velveteen_31, Sarma624_32, Girafales_37
• Track 2 : Veteran_36, Krakatau_37, LittleShirley_39, Starcevich_40, Kersh_35, PhlipPhlop_37, Plumbus_38, SiSi_36, Sabbb_37
• Track 3 : Dante_36, Daenerys_36, Inventum_36, OlympiaSaint_36, Empress_37, Ruby_38, PHappiness_36, Job42_40, OwlsT2W_37, JoeyJr_36, Deb65_36, Spoonbill_36, Nimbo_36, Stap_37, BlueCrab_36, Leozinho_38, Girr_38
• Track 4 : Pacc40_36
• Track 5 : DotProduct_36, GigiOuiOui_36, GUmbie_36, Mutaforma13_36
• Track 6 : Cheesepuff_39, DaddyRickover_36, SimranZ1_39
• Track 7 : Emmaloid_38, Slim_38, Totinger_37
• Track 8 : Che8_38, Ibhubesi_36, Nitzel_37
• Track 9 : LastJedi_30, Maravista_36
• Track 10 : Dorothy_36, Brocalys_31, ShroomBoi_33, Clifton_30, Guppsters_38, Leperchaun_36
• Track 11 : Polka14_37, Scottish_37, OldBen_36, Geralt_36, MisterCuddles_38, KingMidas_38, Karhdo_36
• Track 12 : Royals2015_36
• Track 13 : BuzzLyseyear_39, Firehouse51_37, QuickMath_37, Kimberlium_38
• Track 14 : Rockne_36, Phatniss_37, UncleRicky_39, Vivum_37
• Track 15 : RitaG_37, PMC_36, Llij_36
• Track 16 : Tchotchke_36
• Track 17 : Taj_36
• Track 18 : Ovechkin_37
• Track 19 : Wee_37
• Track 20 : Boomer_38
• Track 21 : ArcusAngelus_36
• Track 22 : RockyHorror_37, Zerg_36
• Track 23 : Mozy_38
• Track 24 : Cornucopia_37

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

The start number called the most often in the published annotations is 2, it was called in 47 of the 84 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• ArcusAngelus_36, BigPhil_32, BlueCrab_36, Boomer_38, BuzzLyseyear_39, Cerasum_32, Che8_38, Cornucopia_37, Daenerys_36, Dante_36, Deb65_36, DotProduct_36, Empress_37, Firehouse51_37, GUmbie_36, GigiOuiOui_36, Girafales_37, Girr_38, Ibhubesi_36, Inventum_36, Job42_40, JoeyJr_36, Kimberlium_38, Leozinho_38, Llij_36, Minnie_38, Modragons_36, Mozy_38, Mutaforma13_36, Nimbo_36, Nitzel_37, OlympiaSaint_36, Ovechkin_37, OwlsT2W_37, PHappiness_36, PMC_36, Pacc40_36, QuickMath_37, Quico_37, RitaG_37, Ruby_38, Sarma624_32, Spoonbill_36, Stap_37, VRedHorse_36, Velveteen_31, Wee_37,

Genes that have the "Most Annotated" start but do not call it:
• Brocalys_31, Cheesepuff_39, Clifton_30, DaddyRickover_36, Dorothy_36, Emmaloid_38, Geralt_36, Guppsters_38, Karhdo_36, Kersh_35, KingMidas_38, Krakatau_37, LastJedi_30, Leperchaun_36, LittleShirley_39, Maravista_36, MisterCuddles_38, OldBen_36, Phatniss_37, PhlipPhlop_37, Plumbus_38, Polka14_37, Rockne_36, RockyHorror_37, Royals2015_36, Sabbb_37, Scottish_37, ShroomBoi_33, SiSi_36, SimranZ1_39, Slim_38, Starcevich_40, Taj_36, Tchotchke_36, Totinger_37, UncleRicky_39, Veteran_36, Vivum_37, Zerg_36,

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

Summary by start number:

Start 1:
• Found in 30 of 86 (34.9%) of genes in pham
• Manual Annotations of this start: 22 of 84
• Called 73.3% of time when present
• Phage (with cluster) where this start called: Brocalys_31 (F1), Clifton_30 (F1), Dorothy_36 (F1), Emmaloid_38 (F1), Guppsters_38 (F1), Kersh_35 (F1), Krakatau_37 (F1), Leperchaun_36 (F1), LittleShirley_39 (F1), PhlipPhlop_37 (F1), Plumbus_38 (F1), RockyHorror_37 (F1), Royals2015_36 (F1), Sabbb_37 (F1), ShroomBoi_33 (F1), SiSi_36 (F1), Slim_38 (F1), Starcevich_40 (F1), Taj_36 (F1), Totinger_37 (F1), Veteran_36 (F1), Zerg_36 (F1),

Start 2:
• Found in 86 of 86 (100.0%) of genes in pham
• Manual Annotations of this start: 47 of 84
• Called 54.7% of time when present
• Phage (with cluster) where this start called: ArcusAngelus_36 (F1), BigPhil_32 (F1), BlueCrab_36 (F1), Boomer_38 (F1), BuzzLyseyear_39 (F1), Cerasum_32 (F1), Che8_38 (F1), Cornucopia_37 (F1), Daenerys_36 (F1), Dante_36 (F1), Deb65_36 (F1), DotProduct_36 (F1), Empress_37 (F1), Firehouse51_37 (F1), GUmbie_36 (F1), GigiOuiOui_36 (F1), Girafales_37 (F1), Girr_38 (F1), Ibhubesi_36 (F1), Inventum_36 (F1), Job42_40 (F1), JoeyJr_36 (F1), Kimberlium_38 (F1), Leozinho_38 (F1), Llij_36 (F1), Minnie_38 (F1), Modragons_36 (F1), Mozy_38 (F1), Mutaforma13_36 (F1), Nimbo_36 (F1), Nitzel_37 (F1), OlympiaSaint_36 (F1), Ovechkin_37 (F1), OwlsT2W_37 (F1), PHappiness_36 (F1), PMC_36 (F1), Pacc40_36 (F1), QuickMath_37 (F1), Quico_37 (F1), RitaG_37 (F1), Ruby_38 (F1), Sarma624_32

(F1), Spoonbill_36 (F1), Stap_37 (F1), VRedHorse_36 (F1), Velveteen_31 (F1), Wee_37 (F1),

Start 3:
• Found in 86 of 86 (100.0%) of genes in pham
• Manual Annotations of this start: 15 of 84
• Called 19.8% of time when present
• Phage (with cluster) where this start called: Cheesepuff_39 (F1), DaddyRickover_36 (F1), Geralt_36 (F1), Karhdo_36 (F1), KingMidas_38 (F1), LastJedi_30 (F1), Maravista_36 (F1), MisterCuddles_38 (F1), OldBen_36 (F1), Phatniss_37 (F1), Polka14_37 (F1), Rockne_36 (F1), Scottish_37 (F1), SimranZ1_39 (F1), Tchotchke_36 (F1), UncleRicky_39 (F1), Vivum_37 (F1),

Summary by clusters:

There is one cluster represented in this pham: F1

Info for manual annotations of cluster F1:
•Start number 1 was manually annotated 22 times for cluster F1.
•Start number 2 was manually annotated 47 times for cluster F1.
•Start number 3 was manually annotated 15 times for cluster F1.

Gene Information:
Gene: ArcusAngelus_36 Start: 30765, Stop: 31055, Start Num: 2
Candidate Starts for ArcusAngelus_36:
(Start: 2 @30765 has 47 MA's), (Start: 3 @30804 has 15 MA's), (4, 30822), (5, 30834), (6, 30876), (7, 30915), (10, 30954), (14, 31020),

Gene: BigPhil_32 Start: 26427, Stop: 26717, Start Num: 2
Candidate Starts for BigPhil_32:
(Start: 2 @26427 has 47 MA's), (Start: 3 @26466 has 15 MA's), (4, 26484), (5, 26496), (6, 26538), (8, 26580), (9, 26592), (10, 26616), (14, 26682),

Gene: BlueCrab_36 Start: 30388, Stop: 30678, Start Num: 2
Candidate Starts for BlueCrab_36:
(Start: 2 @30388 has 47 MA's), (Start: 3 @30427 has 15 MA's), (4, 30445), (5, 30457), (6, 30499), (7, 30538), (10, 30577), (11, 30583), (14, 30643),

Gene: Boomer_38 Start: 30281, Stop: 30571, Start Num: 2
Candidate Starts for Boomer_38:
(Start: 2 @30281 has 47 MA's), (Start: 3 @30320 has 15 MA's), (4, 30338), (5, 30350), (6, 30392), (8, 30434), (9, 30446), (10, 30470), (12, 30491), (13, 30533), (14, 30536),

Gene: Brocalys_31 Start: 25986, Stop: 26297, Start Num: 1
Candidate Starts for Brocalys_31:
(Start: 1 @25986 has 22 MA's), (Start: 2 @26007 has 47 MA's), (Start: 3 @26046 has 15 MA's), (4, 26064), (5, 26076), (6, 26118), (7, 26157), (10, 26196), (11, 26202), (12, 26217), (13, 26259), (14, 26262),

Gene: BuzzLyseyear_39 Start: 31008, Stop: 31298, Start Num: 2

Candidate Starts for BuzzLyseyear_39:
(Start: 2 @31008 has 47 MA's), (Start: 3 @31047 has 15 MA's), (4, 31065), (5, 31077), (6, 31119), (7, 31158), (10, 31197), (11, 31203), (12, 31218), (13, 31260), (14, 31263),

Gene: Cerasum_32 Start: 26427, Stop: 26717, Start Num: 2
Candidate Starts for Cerasum_32:
(Start: 2 @26427 has 47 MA's), (Start: 3 @26466 has 15 MA's), (4, 26484), (5, 26496), (6, 26538), (8, 26580), (9, 26592), (10, 26616), (14, 26682),

Gene: Che8_38 Start: 30659, Stop: 30949, Start Num: 2
Candidate Starts for Che8_38:
(Start: 2 @30659 has 47 MA's), (Start: 3 @30698 has 15 MA's), (4, 30716), (5, 30728), (6, 30770), (8, 30812), (9, 30824), (10, 30848), (11, 30854), (14, 30914),

Gene: Cheesepuff_39 Start: 31517, Stop: 31768, Start Num: 3
Candidate Starts for Cheesepuff_39:
(Start: 2 @31478 has 47 MA's), (Start: 3 @31517 has 15 MA's), (4, 31535), (5, 31547), (6, 31589), (8, 31631), (9, 31643), (10, 31667), (14, 31733),

Gene: Clifton_30 Start: 26337, Stop: 26648, Start Num: 1
Candidate Starts for Clifton_30:
(Start: 1 @26337 has 22 MA's), (Start: 2 @26358 has 47 MA's), (Start: 3 @26397 has 15 MA's), (4, 26415), (5, 26427), (6, 26469), (7, 26508), (10, 26547), (11, 26553), (12, 26568), (13, 26610), (14, 26613),

Gene: Cornucopia_37 Start: 30234, Stop: 30524, Start Num: 2
Candidate Starts for Cornucopia_37:
(Start: 2 @30234 has 47 MA's), (Start: 3 @30273 has 15 MA's), (4, 30291), (5, 30303), (6, 30345), (8, 30387), (9, 30399), (10, 30423), (12, 30444), (13, 30486), (14, 30489),

Gene: DaddyRickover_36 Start: 30439, Stop: 30690, Start Num: 3
Candidate Starts for DaddyRickover_36:
(Start: 2 @30400 has 47 MA's), (Start: 3 @30439 has 15 MA's), (4, 30457), (5, 30469), (6, 30511), (8, 30553), (9, 30565), (10, 30589), (14, 30655),

Gene: Daenerys_36 Start: 30222, Stop: 30512, Start Num: 2
Candidate Starts for Daenerys_36:
(Start: 2 @30222 has 47 MA's), (Start: 3 @30261 has 15 MA's), (4, 30279), (5, 30291), (6, 30333), (7, 30372), (10, 30411), (11, 30417), (14, 30477),

Gene: Dante_36 Start: 30339, Stop: 30629, Start Num: 2
Candidate Starts for Dante_36:
(Start: 2 @30339 has 47 MA's), (Start: 3 @30378 has 15 MA's), (4, 30396), (5, 30408), (6, 30450), (7, 30489), (10, 30528), (11, 30534), (14, 30594),

Gene: Deb65_36 Start: 30222, Stop: 30512, Start Num: 2
Candidate Starts for Deb65_36:
(Start: 2 @30222 has 47 MA's), (Start: 3 @30261 has 15 MA's), (4, 30279), (5, 30291), (6, 30333), (7, 30372), (10, 30411), (11, 30417), (14, 30477),

Gene: Dorothy_36 Start: 30166, Stop: 30477, Start Num: 1
Candidate Starts for Dorothy_36:

(Start: 1 @30166 has 22 MA's), (Start: 2 @30187 has 47 MA's), (Start: 3 @30226 has 15 MA's), (4, 30244), (5, 30256), (6, 30298), (7, 30337), (10, 30376), (11, 30382), (12, 30397), (13, 30439), (14, 30442),

Gene: DotProduct_36 Start: 30211, Stop: 30501, Start Num: 2
Candidate Starts for DotProduct_36:
(Start: 1 @30190 has 22 MA's), (Start: 2 @30211 has 47 MA's), (Start: 3 @30250 has 15 MA's), (4, 30268), (5, 30280), (8, 30364), (9, 30376), (10, 30400), (11, 30406), (14, 30466),

Gene: Emmaloid_38 Start: 31581, Stop: 31892, Start Num: 1
Candidate Starts for Emmaloid_38:
(Start: 1 @31581 has 22 MA's), (Start: 2 @31602 has 47 MA's), (Start: 3 @31641 has 15 MA's), (4, 31659), (5, 31671), (6, 31713), (8, 31755), (9, 31767), (10, 31791), (14, 31857),

Gene: Empress_37 Start: 31635, Stop: 31925, Start Num: 2
Candidate Starts for Empress_37:
(Start: 2 @31635 has 47 MA's), (Start: 3 @31674 has 15 MA's), (4, 31692), (5, 31704), (6, 31746), (7, 31785), (10, 31824), (11, 31830), (14, 31890),

Gene: Firehouse51_37 Start: 31010, Stop: 31300, Start Num: 2
Candidate Starts for Firehouse51_37:
(Start: 2 @31010 has 47 MA's), (Start: 3 @31049 has 15 MA's), (4, 31067), (5, 31079), (6, 31121), (7, 31160), (10, 31199), (11, 31205), (12, 31220), (13, 31262), (14, 31265),

Gene: GUmbie_36 Start: 30241, Stop: 30531, Start Num: 2
Candidate Starts for GUmbie_36:
(Start: 1 @30220 has 22 MA's), (Start: 2 @30241 has 47 MA's), (Start: 3 @30280 has 15 MA's), (4, 30298), (5, 30310), (8, 30394), (9, 30406), (10, 30430), (11, 30436), (14, 30496),

Gene: Geralt_36 Start: 30260, Stop: 30511, Start Num: 3
Candidate Starts for Geralt_36:
(Start: 2 @30221 has 47 MA's), (Start: 3 @30260 has 15 MA's), (4, 30278), (5, 30290), (6, 30332), (7, 30371), (10, 30410), (11, 30416), (14, 30476),

Gene: GigiOuiOui_36 Start: 30353, Stop: 30643, Start Num: 2
Candidate Starts for GigiOuiOui_36:
(Start: 1 @30332 has 22 MA's), (Start: 2 @30353 has 47 MA's), (Start: 3 @30392 has 15 MA's), (4, 30410), (5, 30422), (8, 30506), (9, 30518), (10, 30542), (11, 30548), (14, 30608),

Gene: Girafales_37 Start: 30028, Stop: 30318, Start Num: 2
Candidate Starts for Girafales_37:
(Start: 2 @30028 has 47 MA's), (Start: 3 @30067 has 15 MA's), (4, 30085), (5, 30097), (6, 30139), (8, 30181), (9, 30193), (10, 30217), (14, 30283),

Gene: Girr_38 Start: 31257, Stop: 31547, Start Num: 2
Candidate Starts for Girr_38:
(Start: 2 @31257 has 47 MA's), (Start: 3 @31296 has 15 MA's), (4, 31314), (5, 31326), (6, 31368), (7, 31407), (10, 31446), (11, 31452), (14, 31512),

Gene: Guppsters_38 Start: 30718, Stop: 31029, Start Num: 1
Candidate Starts for Guppsters_38:
(Start: 1 @30718 has 22 MA's), (Start: 2 @30739 has 47 MA's), (Start: 3 @30778 has 15 MA's), (4, 30796), (5, 30808), (6, 30850), (7, 30889), (10, 30928), (11, 30934), (12, 30949), (13, 30991), (14,

30994),

Gene: Ibhubesi_36 Start: 30164, Stop: 30454, Start Num: 2
Candidate Starts for Ibhubesi_36:
(Start: 2 @30164 has 47 MA's), (Start: 3 @30203 has 15 MA's), (4, 30221), (5, 30233), (6, 30275), (8, 30317), (9, 30329), (10, 30353), (11, 30359), (14, 30419),

Gene: Inventum_36 Start: 30902, Stop: 31192, Start Num: 2
Candidate Starts for Inventum_36:
(Start: 2 @30902 has 47 MA's), (Start: 3 @30941 has 15 MA's), (4, 30959), (5, 30971), (6, 31013), (7, 31052), (10, 31091), (11, 31097), (14, 31157),

Gene: Job42_40 Start: 32218, Stop: 32508, Start Num: 2
Candidate Starts for Job42_40:
(Start: 2 @32218 has 47 MA's), (Start: 3 @32257 has 15 MA's), (4, 32275), (5, 32287), (6, 32329), (7, 32368), (10, 32407), (11, 32413), (14, 32473),

Gene: JoeyJr_36 Start: 30390, Stop: 30680, Start Num: 2
Candidate Starts for JoeyJr_36:
(Start: 2 @30390 has 47 MA's), (Start: 3 @30429 has 15 MA's), (4, 30447), (5, 30459), (6, 30501), (7, 30540), (10, 30579), (11, 30585), (14, 30645),

Gene: Karhdo_36 Start: 30393, Stop: 30644, Start Num: 3
Candidate Starts for Karhdo_36:
(Start: 2 @30354 has 47 MA's), (Start: 3 @30393 has 15 MA's), (4, 30411), (5, 30423), (6, 30465), (7, 30504), (10, 30543), (11, 30549), (14, 30609),

Gene: Kersh_35 Start: 31408, Stop: 31719, Start Num: 1
Candidate Starts for Kersh_35:
(Start: 1 @31408 has 22 MA's), (Start: 2 @31429 has 47 MA's), (Start: 3 @31468 has 15 MA's), (4, 31486), (5, 31498), (8, 31582), (9, 31594), (10, 31618), (11, 31624), (14, 31684),

Gene: Kimberlium_38 Start: 31345, Stop: 31635, Start Num: 2
Candidate Starts for Kimberlium_38:
(Start: 2 @31345 has 47 MA's), (Start: 3 @31384 has 15 MA's), (4, 31402), (5, 31414), (6, 31456), (7, 31495), (10, 31534), (11, 31540), (12, 31555), (13, 31597), (14, 31600),

Gene: KingMidas_38 Start: 32123, Stop: 32374, Start Num: 3
Candidate Starts for KingMidas_38:
(Start: 2 @32084 has 47 MA's), (Start: 3 @32123 has 15 MA's), (4, 32141), (5, 32153), (6, 32195), (7, 32234), (10, 32273), (11, 32279), (14, 32339),

Gene: Krakatau_37 Start: 30895, Stop: 31206, Start Num: 1
Candidate Starts for Krakatau_37:
(Start: 1 @30895 has 22 MA's), (Start: 2 @30916 has 47 MA's), (Start: 3 @30955 has 15 MA's), (4, 30973), (5, 30985), (8, 31069), (9, 31081), (10, 31105), (11, 31111), (14, 31171),

Gene: LastJedi_30 Start: 26440, Stop: 26691, Start Num: 3
Candidate Starts for LastJedi_30:
(Start: 1 @26380 has 22 MA's), (Start: 2 @26401 has 47 MA's), (Start: 3 @26440 has 15 MA's), (4, 26458), (5, 26470), (6, 26512), (7, 26551), (10, 26590), (11, 26596), (12, 26611), (13, 26653), (14, 26656),

Gene: Leozinho_38 Start: 30643, Stop: 30933, Start Num: 2
Candidate Starts for Leozinho_38:
(Start: 2 @30643 has 47 MA's), (Start: 3 @30682 has 15 MA's), (4, 30700), (5, 30712), (6, 30754), (7, 30793), (10, 30832), (11, 30838), (14, 30898),

Gene: Leperchaun_36 Start: 30275, Stop: 30586, Start Num: 1
Candidate Starts for Leperchaun_36:
(Start: 1 @30275 has 22 MA's), (Start: 2 @30296 has 47 MA's), (Start: 3 @30335 has 15 MA's), (4, 30353), (5, 30365), (6, 30407), (7, 30446), (10, 30485), (11, 30491), (12, 30506), (13, 30548), (14, 30551),

Gene: LittleShirley_39 Start: 31841, Stop: 32152, Start Num: 1
Candidate Starts for LittleShirley_39:
(Start: 1 @31841 has 22 MA's), (Start: 2 @31862 has 47 MA's), (Start: 3 @31901 has 15 MA's), (4, 31919), (5, 31931), (8, 32015), (9, 32027), (10, 32051), (11, 32057), (14, 32117),

Gene: Llij_36 Start: 30202, Stop: 30492, Start Num: 2
Candidate Starts for Llij_36:
(Start: 2 @30202 has 47 MA's), (Start: 3 @30241 has 15 MA's), (4, 30259), (5, 30271), (6, 30313), (7, 30352), (10, 30391), (11, 30397), (12, 30412), (13, 30454), (14, 30457),

Gene: Maravista_36 Start: 30190, Stop: 30441, Start Num: 3
Candidate Starts for Maravista_36:
(Start: 1 @30130 has 22 MA's), (Start: 2 @30151 has 47 MA's), (Start: 3 @30190 has 15 MA's), (4, 30208), (5, 30220), (6, 30262), (7, 30301), (10, 30340), (11, 30346), (12, 30361), (13, 30403), (14, 30406),

Gene: Minnie_38 Start: 31204, Stop: 31494, Start Num: 2
Candidate Starts for Minnie_38:
(Start: 2 @31204 has 47 MA's), (Start: 3 @31243 has 15 MA's), (4, 31261), (5, 31273), (6, 31315), (8, 31357), (9, 31369), (10, 31393), (14, 31459),

Gene: MisterCuddles_38 Start: 31296, Stop: 31547, Start Num: 3
Candidate Starts for MisterCuddles_38:
(Start: 2 @31257 has 47 MA's), (Start: 3 @31296 has 15 MA's), (4, 31314), (5, 31326), (6, 31368), (7, 31407), (10, 31446), (11, 31452), (14, 31512),

Gene: Modragons_36 Start: 30273, Stop: 30563, Start Num: 2
Candidate Starts for Modragons_36:
(Start: 2 @30273 has 47 MA's), (Start: 3 @30312 has 15 MA's), (4, 30330), (5, 30342), (6, 30384), (8, 30426), (9, 30438), (10, 30462), (14, 30528),

Gene: Mozy_38 Start: 31099, Stop: 31389, Start Num: 2
Candidate Starts for Mozy_38:
(Start: 2 @31099 has 47 MA's), (Start: 3 @31138 has 15 MA's), (4, 31156), (5, 31168), (6, 31210), (8, 31252), (9, 31264), (10, 31288), (11, 31294), (12, 31309), (13, 31351), (14, 31354),

Gene: Mutaforma13_36 Start: 30479, Stop: 30769, Start Num: 2
Candidate Starts for Mutaforma13_36:
(Start: 1 @30458 has 22 MA's), (Start: 2 @30479 has 47 MA's), (Start: 3 @30518 has 15 MA's), (4, 30536), (5, 30548), (8, 30632), (9, 30644), (10, 30668), (11, 30674), (14, 30734),

Gene: Nimbo_36 Start: 30225, Stop: 30515, Start Num: 2

Candidate Starts for Nimbo_36:
(Start: 2 @30225 has 47 MA's), (Start: 3 @30264 has 15 MA's), (4, 30282), (5, 30294), (6, 30336), (7, 30375), (10, 30414), (11, 30420), (14, 30480),

Gene: Nitzel_37 Start: 30941, Stop: 31231, Start Num: 2
Candidate Starts for Nitzel_37:
(Start: 2 @30941 has 47 MA's), (Start: 3 @30980 has 15 MA's), (4, 30998), (5, 31010), (6, 31052), (8, 31094), (9, 31106), (10, 31130), (11, 31136), (14, 31196),

Gene: OldBen_36 Start: 30295, Stop: 30546, Start Num: 3
Candidate Starts for OldBen_36:
(Start: 2 @30256 has 47 MA's), (Start: 3 @30295 has 15 MA's), (4, 30313), (5, 30325), (6, 30367), (7, 30406), (10, 30445), (11, 30451), (14, 30511),

Gene: OlympiaSaint_36 Start: 30671, Stop: 30961, Start Num: 2
Candidate Starts for OlympiaSaint_36:
(Start: 2 @30671 has 47 MA's), (Start: 3 @30710 has 15 MA's), (4, 30728), (5, 30740), (6, 30782), (7, 30821), (10, 30860), (11, 30866), (14, 30926),

Gene: Ovechkin_37 Start: 31231, Stop: 31521, Start Num: 2
Candidate Starts for Ovechkin_37:
(Start: 2 @31231 has 47 MA's), (Start: 3 @31270 has 15 MA's), (4, 31288), (5, 31300), (6, 31342), (7, 31381), (10, 31420), (14, 31486),

Gene: OwlsT2W_37 Start: 30646, Stop: 30936, Start Num: 2
Candidate Starts for OwlsT2W_37:
(Start: 2 @30646 has 47 MA's), (Start: 3 @30685 has 15 MA's), (4, 30703), (5, 30715), (6, 30757), (7, 30796), (10, 30835), (11, 30841), (14, 30901),

Gene: PHappiness_36 Start: 30198, Stop: 30488, Start Num: 2
Candidate Starts for PHappiness_36:
(Start: 2 @30198 has 47 MA's), (Start: 3 @30237 has 15 MA's), (4, 30255), (5, 30267), (6, 30309), (7, 30348), (10, 30387), (11, 30393), (14, 30453),

Gene: PMC_36 Start: 30202, Stop: 30492, Start Num: 2
Candidate Starts for PMC_36:
(Start: 2 @30202 has 47 MA's), (Start: 3 @30241 has 15 MA's), (4, 30259), (5, 30271), (6, 30313), (7, 30352), (10, 30391), (11, 30397), (12, 30412), (13, 30454), (14, 30457),

Gene: Pacc40_36 Start: 30392, Stop: 30682, Start Num: 2
Candidate Starts for Pacc40_36:
(Start: 1 @30371 has 22 MA's), (Start: 2 @30392 has 47 MA's), (Start: 3 @30431 has 15 MA's), (4, 30449), (5, 30461), (6, 30503), (7, 30542), (10, 30581), (11, 30587), (12, 30602), (13, 30644), (14, 30647),

Gene: Phatniss_37 Start: 30758, Stop: 31009, Start Num: 3
Candidate Starts for Phatniss_37:
(Start: 2 @30719 has 47 MA's), (Start: 3 @30758 has 15 MA's), (4, 30776), (5, 30788), (6, 30830), (7, 30869), (10, 30908), (11, 30914), (12, 30929), (13, 30971), (14, 30974),

Gene: PhlipPhlop_37 Start: 31813, Stop: 32124, Start Num: 1
Candidate Starts for PhlipPhlop_37:

(Start: 1 @31813 has 22 MA's), (Start: 2 @31834 has 47 MA's), (Start: 3 @31873 has 15 MA's), (4, 31891), (5, 31903), (8, 31987), (9, 31999), (10, 32023), (11, 32029), (14, 32089),

Gene: Plumbus_38 Start: 30277, Stop: 30588, Start Num: 1
Candidate Starts for Plumbus_38:
(Start: 1 @30277 has 22 MA's), (Start: 2 @30298 has 47 MA's), (Start: 3 @30337 has 15 MA's), (4, 30355), (5, 30367), (8, 30451), (9, 30463), (10, 30487), (11, 30493), (14, 30553),

Gene: Polka14_37 Start: 30882, Stop: 31133, Start Num: 3
Candidate Starts for Polka14_37:
(Start: 2 @30843 has 47 MA's), (Start: 3 @30882 has 15 MA's), (4, 30900), (5, 30912), (6, 30954), (7, 30993), (10, 31032), (11, 31038), (14, 31098),

Gene: QuickMath_37 Start: 31568, Stop: 31858, Start Num: 2
Candidate Starts for QuickMath_37:
(Start: 2 @31568 has 47 MA's), (Start: 3 @31607 has 15 MA's), (4, 31625), (5, 31637), (6, 31679), (7, 31718), (10, 31757), (11, 31763), (12, 31778), (13, 31820), (14, 31823),

Gene: Quico_37 Start: 30028, Stop: 30318, Start Num: 2
Candidate Starts for Quico_37:
(Start: 2 @30028 has 47 MA's), (Start: 3 @30067 has 15 MA's), (4, 30085), (5, 30097), (6, 30139), (8, 30181), (9, 30193), (10, 30217), (14, 30283),

Gene: RitaG_37 Start: 30665, Stop: 30955, Start Num: 2
Candidate Starts for RitaG_37:
(Start: 2 @30665 has 47 MA's), (Start: 3 @30704 has 15 MA's), (4, 30722), (5, 30734), (6, 30776), (7, 30815), (10, 30854), (11, 30860), (12, 30875), (13, 30917), (14, 30920),

Gene: Rockne_36 Start: 30241, Stop: 30492, Start Num: 3
Candidate Starts for Rockne_36:
(Start: 2 @30202 has 47 MA's), (Start: 3 @30241 has 15 MA's), (4, 30259), (5, 30271), (6, 30313), (7, 30352), (10, 30391), (11, 30397), (12, 30412), (13, 30454), (14, 30457),

Gene: RockyHorror_37 Start: 30124, Stop: 30435, Start Num: 1
Candidate Starts for RockyHorror_37:
(Start: 1 @30124 has 22 MA's), (Start: 2 @30145 has 47 MA's), (Start: 3 @30184 has 15 MA's), (4, 30202), (5, 30214), (6, 30256), (7, 30295), (10, 30334), (11, 30340), (14, 30400),

Gene: Royals2015_36 Start: 30297, Stop: 30608, Start Num: 1
Candidate Starts for Royals2015_36:
(Start: 1 @30297 has 22 MA's), (Start: 2 @30318 has 47 MA's), (Start: 3 @30357 has 15 MA's), (4, 30375), (5, 30387), (6, 30429), (8, 30471), (9, 30483), (10, 30507), (11, 30513), (14, 30573),

Gene: Ruby_38 Start: 31257, Stop: 31547, Start Num: 2
Candidate Starts for Ruby_38:
(Start: 2 @31257 has 47 MA's), (Start: 3 @31296 has 15 MA's), (4, 31314), (5, 31326), (6, 31368), (7, 31407), (10, 31446), (11, 31452), (14, 31512),

Gene: Sabbb_37 Start: 30597, Stop: 30908, Start Num: 1
Candidate Starts for Sabbb_37:
(Start: 1 @30597 has 22 MA's), (Start: 2 @30618 has 47 MA's), (Start: 3 @30657 has 15 MA's), (4, 30675), (5, 30687), (8, 30771), (9, 30783), (10, 30807), (11, 30813), (14, 30873),

Gene: Sarma624_32 Start: 26427, Stop: 26717, Start Num: 2
Candidate Starts for Sarma624_32:
(Start: 2 @26427 has 47 MA's), (Start: 3 @26466 has 15 MA's), (4, 26484), (5, 26496), (6, 26538), (8, 26580), (9, 26592), (10, 26616), (14, 26682),

Gene: Scottish_37 Start: 31562, Stop: 31813, Start Num: 3
Candidate Starts for Scottish_37:
(Start: 2 @31523 has 47 MA's), (Start: 3 @31562 has 15 MA's), (4, 31580), (5, 31592), (6, 31634), (7, 31673), (10, 31712), (11, 31718), (14, 31778),

Gene: ShroomBoi_33 Start: 29273, Stop: 29584, Start Num: 1
Candidate Starts for ShroomBoi_33:
(Start: 1 @29273 has 22 MA's), (Start: 2 @29294 has 47 MA's), (Start: 3 @29333 has 15 MA's), (4, 29351), (5, 29363), (6, 29405), (7, 29444), (10, 29483), (11, 29489), (12, 29504), (13, 29546), (14, 29549),

Gene: SiSi_36 Start: 30181, Stop: 30492, Start Num: 1
Candidate Starts for SiSi_36:
(Start: 1 @30181 has 22 MA's), (Start: 2 @30202 has 47 MA's), (Start: 3 @30241 has 15 MA's), (4, 30259), (5, 30271), (8, 30355), (9, 30367), (10, 30391), (11, 30397), (14, 30457),

Gene: SimranZ1_39 Start: 30558, Stop: 30809, Start Num: 3
Candidate Starts for SimranZ1_39:
(Start: 2 @30519 has 47 MA's), (Start: 3 @30558 has 15 MA's), (4, 30576), (5, 30588), (6, 30630), (8, 30672), (9, 30684), (10, 30708), (14, 30774),

Gene: Slim_38 Start: 31572, Stop: 31883, Start Num: 1
Candidate Starts for Slim_38:
(Start: 1 @31572 has 22 MA's), (Start: 2 @31593 has 47 MA's), (Start: 3 @31632 has 15 MA's), (4, 31650), (5, 31662), (6, 31704), (8, 31746), (9, 31758), (10, 31782), (14, 31848),

Gene: Spoonbill_36 Start: 30482, Stop: 30772, Start Num: 2
Candidate Starts for Spoonbill_36:
(Start: 2 @30482 has 47 MA's), (Start: 3 @30521 has 15 MA's), (4, 30539), (5, 30551), (6, 30593), (7, 30632), (10, 30671), (11, 30677), (14, 30737),

Gene: Stap_37 Start: 30373, Stop: 30663, Start Num: 2
Candidate Starts for Stap_37:
(Start: 2 @30373 has 47 MA's), (Start: 3 @30412 has 15 MA's), (4, 30430), (5, 30442), (6, 30484), (7, 30523), (10, 30562), (11, 30568), (14, 30628),

Gene: Starcevich_40 Start: 31076, Stop: 31387, Start Num: 1
Candidate Starts for Starcevich_40:
(Start: 1 @31076 has 22 MA's), (Start: 2 @31097 has 47 MA's), (Start: 3 @31136 has 15 MA's), (4, 31154), (5, 31166), (8, 31250), (9, 31262), (10, 31286), (11, 31292), (14, 31352),

Gene: Taj_36 Start: 30359, Stop: 30670, Start Num: 1
Candidate Starts for Taj_36:
(Start: 1 @30359 has 22 MA's), (Start: 2 @30380 has 47 MA's), (Start: 3 @30419 has 15 MA's), (4, 30437), (5, 30449), (6, 30491), (7, 30530), (8, 30533), (10, 30569), (12, 30590), (13, 30632), (14, 30635),

Gene: Tchotchke_36 Start: 29861, Stop: 30112, Start Num: 3

Candidate Starts for Tchotchke_36:
(Start: 2 @29822 has 47 MA's), (Start: 3 @29861 has 15 MA's), (4, 29879), (5, 29891), (6, 29933), (8, 29975), (9, 29987), (10, 30011), (14, 30077),

Gene: Totinger_37 Start: 30183, Stop: 30494, Start Num: 1
Candidate Starts for Totinger_37:
(Start: 1 @30183 has 22 MA's), (Start: 2 @30204 has 47 MA's), (Start: 3 @30243 has 15 MA's), (4, 30261), (5, 30273), (6, 30315), (8, 30357), (9, 30369), (10, 30393), (14, 30459),

Gene: UncleRicky_39 Start: 31574, Stop: 31825, Start Num: 3
Candidate Starts for UncleRicky_39:
(Start: 2 @31535 has 47 MA's), (Start: 3 @31574 has 15 MA's), (4, 31592), (5, 31604), (6, 31646), (7, 31685), (10, 31724), (11, 31730), (12, 31745), (13, 31787), (14, 31790),

Gene: VRedHorse_36 Start: 30390, Stop: 30680, Start Num: 2
Candidate Starts for VRedHorse_36:
(Start: 2 @30390 has 47 MA's), (Start: 3 @30429 has 15 MA's), (4, 30447), (5, 30459), (6, 30501), (8, 30543), (9, 30555), (10, 30579), (14, 30645),

Gene: Velveteen_31 Start: 26427, Stop: 26717, Start Num: 2
Candidate Starts for Velveteen_31:
(Start: 2 @26427 has 47 MA's), (Start: 3 @26466 has 15 MA's), (4, 26484), (5, 26496), (6, 26538), (8, 26580), (9, 26592), (10, 26616), (14, 26682),

Gene: Veteran_36 Start: 30220, Stop: 30531, Start Num: 1
Candidate Starts for Veteran_36:
(Start: 1 @30220 has 22 MA's), (Start: 2 @30241 has 47 MA's), (Start: 3 @30280 has 15 MA's), (4, 30298), (5, 30310), (8, 30394), (9, 30406), (10, 30430), (11, 30436), (14, 30496),

Gene: Vivum_37 Start: 30258, Stop: 30509, Start Num: 3
Candidate Starts for Vivum_37:
(Start: 2 @30219 has 47 MA's), (Start: 3 @30258 has 15 MA's), (4, 30276), (5, 30288), (6, 30330), (7, 30369), (10, 30408), (11, 30414), (12, 30429), (13, 30471), (14, 30474),

Gene: Wee_37 Start: 30918, Stop: 31208, Start Num: 2
Candidate Starts for Wee_37:
(Start: 1 @30897 has 22 MA's), (Start: 2 @30918 has 47 MA's), (Start: 3 @30957 has 15 MA's), (4, 30975), (5, 30987), (6, 31029), (7, 31068), (8, 31071), (10, 31107), (12, 31128), (13, 31170), (14, 31173),

Gene: Zerg_36 Start: 30233, Stop: 30544, Start Num: 1
Candidate Starts for Zerg_36:
(Start: 1 @30233 has 22 MA's), (Start: 2 @30254 has 47 MA's), (Start: 3 @30293 has 15 MA's), (4, 30311), (5, 30323), (6, 30365), (7, 30404), (10, 30443), (11, 30449), (14, 30509),