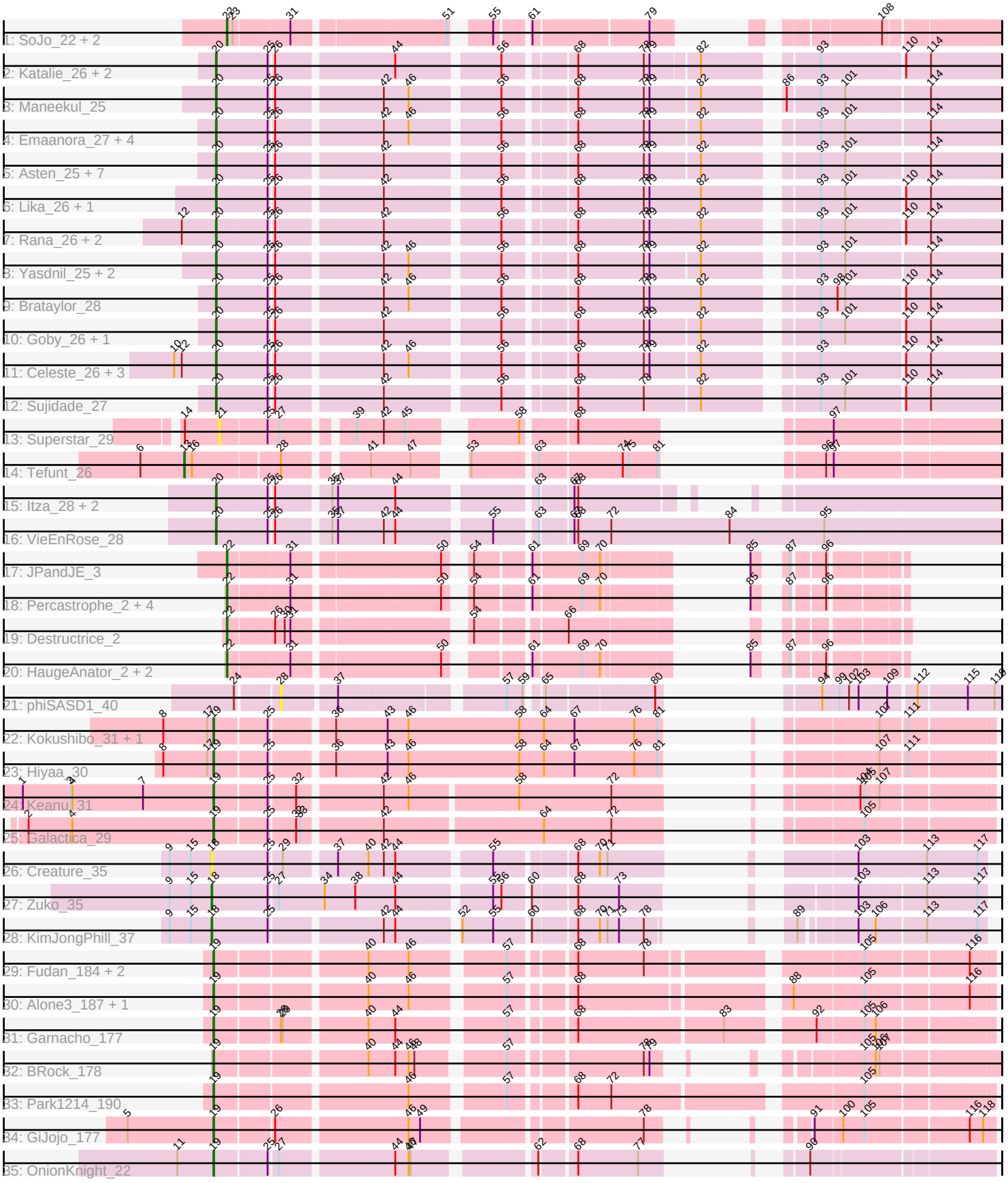
Pham 347574


1: SoJo_22 + 2
2: Katalie_26 + 2
3: Maneekul_25
4: Emaanora_27 + 4
5: Asten_25 + 7
6: Lika_26 + 1
7: Rana_26 + 2
8: Yasdnil_25 + 2
9: Brataylor_28
10: Goby_26 + 1
11: Celeste_26 + 3
12: Sujidade_27
13: Superstar_29
14: Tefunt_26
15: Itza_28 + 2
16: VieEnRose_28
17: JPandJE_3
18: Percastrophe_2 + 4
19: Destructrice_2
20: HaugeAnator_2 + 2
21: phiSASD1_40
22: Kokushibo_31 + 1
23: Hiyaa_30
24: Keanu_31
25: Galactica_29
26: Creature_35
27: Zuko_35
28: KimJongPhill_37
29: Fudan_184 + 2
30: Alone3_187 + 1
31: Garnacho_177
32: BRock_178
33: Park1214_190
34: GiJojo_177
35: OnionKnight_22

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 347574 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347574 has 71 members, 4 are drafts.

Phages represented in each track:
- Track 1 : SoJo_22, DaRealMyers_22, Tubberson_22
- Track 2 : Katalie_26, RedBear_27, South40_26
- Track 3 : Maneekul_25
- Track 4 : Emaanora_27, OzzyJ_26, Hippo_25, SarahRose_25, Dwayne_25
- Track 5 : Asten_25, TagePhighter_26, Triste_25, BarryBee_27, Snorlax_25, Whatever_25, Chucky_25, Werner_25
- Track 6 : Lika_26, Godpower_27
- Track 7 : Rana_26, Lorelei_26, Nabi_26
- Track 8 : Yasdnil_25, Ejemplo_25, TuanPN_25
- Track 9 : Brataylor_28
- Track 10 : Goby_26, Toma_26
- Track 11 : Celeste_26, Zemlya_27, Danzina_27, Dattran_27
- Track 12 : Sujidade_27
- Track 13 : Superstar_29
- Track 14 : Tefunt_26
- Track 15 : Itza_28, Urza_28, Celia_28
- Track 16 : VieEnRose_28
- Track 17 : JPandJE_3
- Track 18 : Percastrophe_2, Romero_2, Immanuel3_2, ToriToki_2, Treat_2
- Track 19 : Destructrice_2
- Track 20 : HaugeAnator_2, ZooBear_2, Olicious_2
- Track 21 : phiSASD1_40
- Track 22 : Kokushibo_31, Spocter_30
- Track 23 : Hiyaa_30
- Track 24 : Keanu_31
- Track 25 : Galactica_29
- Track 26 : Creature_35
- Track 27 : Zuko_35
- Track 28 : KimJongPhill_37
- Track 29 : Fudan_184, LuckySocke_185, Talos_187
- Track 30 : Alone3_187, Beleetus_185
- Track 31 : Garnacho_177
- Track 32 : BRock_178
- Track 33 : Park1214_190
- Track 34 : GiJojo_177
- Track 35 : OnionKnight_22

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

The start number called the most often in the published annotations is 20, it was called in 37 of the 67 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Asten_25, BarryBee_27, Brataylor_28, Celeste_26, Celia_28, Chucky_25, Danzina_27, Dattran_27, Dwayne_25, Ejemplo_25, Emaanora_27, Goby_26, Godpower_27, Hippo_25, Itza_28, Katalie_26, Lika_26, Lorelei_26, Maneekul_25, Nabi_26, OzzyJ_26, Rana_26, RedBear_27, SarahRose_25, Snorlax_25, South40_26, Sujidade_27, TagePhighter_26, Toma_26, Triste_25, TuanPN_25, Urza_28, VieEnRose_28, Werner_25, Whatever_25, Yasdnil_25, Zemlya_27,

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

Genes that do not have the "Most Annotated" start:
• Alone3_187, BRock_178, Beleetus_185, Creature_35, DaRealMyers_22, Destructrice_2, Fudan_184, Galactica_29, Garnacho_177, GiJojo_177, HaugeAnator_2, Hiyaa_30, Immanuel3_2, JPandJE_3, Keanu_31, KimJongPhill_37, Kokushibo_31, LuckySocke_185, Olicious_2, OnionKnight_22, Park1214_190, Percastrophe_2, Romero_2, SoJo_22, Spocter_30, Superstar_29, Talos_187, Tefunt_26, ToriToki_2, Treat_2, Tubberson_22, ZooBear_2, Zuko_35, phiSASD1_40,

Summary by start number:

Start 13:
• Found in 1 of 71 (1.4%) of genes in pham
• Manual Annotations of this start: 1 of 67
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Tefunt_26 (BD2),

Start 18:
• Found in 3 of 71 (4.2%) of genes in pham
• Manual Annotations of this start: 2 of 67
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Creature_35 (BR), KimJongPhill_37 (BR), Zuko_35 (BR),

Start 19:
• Found in 15 of 71 (21.1%) of genes in pham
• Manual Annotations of this start: 14 of 67
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Alone3_187 (BS), BRock_178 (BS), Beleetus_185 (BS), Fudan_184 (BS), Galactica_29 (BQ), Garnacho_177 (BS), GiJojo_177 (BS), Hiyaa_30 (BQ), Keanu_31 (BQ), Kokushibo_31 (BQ), LuckySocke_185 (BS), OnionKnight_22 (singleton), Park1214_190 (BS), Spocter_30 (BQ), Talos_187 (BS),

Start 20:

• Found in 37 of 71 (52.1%) of genes in pham
• Manual Annotations of this start: 37 of 67
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Asten_25 (BD1), BarryBee_27 (BD1), Brataylor_28 (BD1), Celeste_26 (BD1), Celia_28 (BD6), Chucky_25 (BD1), Danzina_27 (BD1), Dattran_27 (BD1), Dwayne_25 (BD1), Ejemplo_25 (BD1), Emaanora_27 (BD1), Goby_26 (BD1), Godpower_27 (BD1), Hippo_25 (BD1), Itza_28 (BD6), Katalie_26 (BD1), Lika_26 (BD1), Lorelei_26 (BD1), Maneekul_25 (BD1), Nabi_26 (BD1), OzzyJ_26 (BD1), Rana_26 (BD1), RedBear_27 (BD1), SarahRose_25 (BD1), Snorlax_25 (BD1), South40_26 (BD1), Sujidade_27 (BD1), TagePhighter_26 (BD1), Toma_26 (BD1), Triste_25 (BD1), TuanPN_25 (BD1), Urza_28 (BD6), VieEnRose_28 (BD6), Werner_25 (BD1), Whatever_25 (BD1), Yasdnil_25 (BD1), Zemlya_27 (BD1),

Start 21:
• Found in 1 of 71 (1.4%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Superstar_29 (BD2),

Start 22:
• Found in 13 of 71 (18.3%) of genes in pham
• Manual Annotations of this start: 13 of 67
• Called 100.0% of time when present
• Phage (with cluster) where this start called: DaRealMyers_22 (BC1), Destructrice_2 (BF), HaugeAnator_2 (BF), Immanuel3_2 (BF), JPandJE_3 (BF), Olicious_2 (BF), Percastrophe_2 (BF), Romero_2 (BF), SoJo_22 (BC1), ToriToki_2 (BF), Treat_2 (BF), Tubberson_22 (BC1), ZooBear_2 (BF),

Start 28:
• Found in 3 of 71 (4.2%) of genes in pham
• No Manual Annotations of this start.
• Called 33.3% of time when present
• Phage (with cluster) where this start called: phiSASD1_40 (BJ),

Summary by clusters:

There are 10 clusters represented in this pham: BF, BS, singleton, BJ, BD6, BD1, BQ, BR, BD2, BC1,

Info for manual annotations of cluster BC1:
•Start number 22 was manually annotated 3 times for cluster BC1.

Info for manual annotations of cluster BD1:
•Start number 20 was manually annotated 33 times for cluster BD1.

Info for manual annotations of cluster BD2:
•Start number 13 was manually annotated 1 time for cluster BD2.

Info for manual annotations of cluster BD6:
•Start number 20 was manually annotated 4 times for cluster BD6.

Info for manual annotations of cluster BF:

•Start number 22 was manually annotated 10 times for cluster BF.

Info for manual annotations of cluster BQ:
•Start number 19 was manually annotated 5 times for cluster BQ.

Info for manual annotations of cluster BR:
•Start number 18 was manually annotated 2 times for cluster BR.

Info for manual annotations of cluster BS:
•Start number 19 was manually annotated 8 times for cluster BS.

Gene Information:

Gene: Alone3_187 Start: 95865, Stop: 96938, Start Num: 19
Candidate Starts for Alone3_187:
(Start: 19 @95865 has 14 MA's), (40, 96081), (46, 96144), (57, 96273), (68, 96357), (88, 96648), (105, 96753), (116, 96903),

Gene: Asten_25 Start: 21080, Stop: 22168, Start Num: 20
Candidate Starts for Asten_25:
(Start: 20 @21080 has 37 MA's), (25, 21158), (26, 21164), (42, 21320), (56, 21485), (68, 21581), (78, 21680), (79, 21689), (82, 21761), (93, 21905), (101, 21941), (114, 22061),

Gene: BRock_178 Start: 91256, Stop: 92188, Start Num: 19
Candidate Starts for BRock_178:
(Start: 19 @91256 has 14 MA's), (40, 91472), (44, 91514), (46, 91535), (48, 91544), (57, 91661), (78, 91844), (79, 91853), (105, 91994), (106, 92009), (107, 92015),

Gene: BarryBee_27 Start: 21090, Stop: 22178, Start Num: 20
Candidate Starts for BarryBee_27:
(Start: 20 @21090 has 37 MA's), (25, 21168), (26, 21174), (42, 21330), (56, 21495), (68, 21591), (78, 21690), (79, 21699), (82, 21771), (93, 21915), (101, 21951), (114, 22071),

Gene: Beleetus_185 Start: 94526, Stop: 95599, Start Num: 19
Candidate Starts for Beleetus_185:
(Start: 19 @94526 has 14 MA's), (40, 94742), (46, 94805), (57, 94934), (68, 95018), (88, 95309), (105, 95414), (116, 95564),

Gene: Brataylor_28 Start: 22093, Stop: 23187, Start Num: 20
Candidate Starts for Brataylor_28:
(Start: 20 @22093 has 37 MA's), (25, 22171), (26, 22177), (42, 22333), (46, 22372), (56, 22498), (68, 22594), (78, 22693), (79, 22702), (82, 22777), (93, 22924), (98, 22948), (101, 22960), (110, 23044), (114, 23080),

Gene: Celeste_26 Start: 21546, Stop: 22634, Start Num: 20
Candidate Starts for Celeste_26:
(10, 21483), (12, 21495), (Start: 20 @21546 has 37 MA's), (25, 21624), (26, 21630), (42, 21786), (46, 21825), (56, 21951), (68, 22047), (78, 22146), (79, 22155), (82, 22227), (93, 22371), (110, 22491), (114, 22527),

Gene: Celia_28 Start: 21987, Stop: 22973, Start Num: 20
Candidate Starts for Celia_28:
(Start: 20 @21987 has 37 MA's), (25, 22065), (26, 22071), (35, 22146), (37, 22155), (44, 22245), (63, 22437), (67, 22479), (68, 22485),

Gene: Chucky_25 Start: 21094, Stop: 22182, Start Num: 20
Candidate Starts for Chucky_25:
(Start: 20 @21094 has 37 MA's), (25, 21172), (26, 21178), (42, 21334), (56, 21499), (68, 21595), (78, 21694), (79, 21703), (82, 21775), (93, 21919), (101, 21955), (114, 22075),

Gene: Creature_35 Start: 31607, Stop: 30657, Start Num: 18
Candidate Starts for Creature_35:
(9, 31673), (15, 31640), (Start: 18 @31607 has 2 MA's), (25, 31523), (29, 31505), (37, 31433), (40, 31385), (42, 31361), (44, 31343), (55, 31208), (68, 31100), (70, 31067), (71, 31055), (103, 30851), (113, 30746), (117, 30671),

Gene: DaRealMyers_22 Start: 18309, Stop: 19253, Start Num: 22
Candidate Starts for DaRealMyers_22:
(Start: 22 @18309 has 13 MA's), (23, 18318), (31, 18402), (51, 18624), (55, 18666), (61, 18708), (79, 18885), (108, 19086),

Gene: Danzina_27 Start: 21847, Stop: 22935, Start Num: 20
Candidate Starts for Danzina_27:
(10, 21784), (12, 21796), (Start: 20 @21847 has 37 MA's), (25, 21925), (26, 21931), (42, 22087), (46, 22126), (56, 22252), (68, 22348), (78, 22447), (79, 22456), (82, 22528), (93, 22672), (110, 22792), (114, 22828),

Gene: Dattran_27 Start: 21656, Stop: 22744, Start Num: 20
Candidate Starts for Dattran_27:
(10, 21593), (12, 21605), (Start: 20 @21656 has 37 MA's), (25, 21734), (26, 21740), (42, 21896), (46, 21935), (56, 22061), (68, 22157), (78, 22256), (79, 22265), (82, 22337), (93, 22481), (110, 22601), (114, 22637),

Gene: Destructrice_2 Start: 2633, Stop: 3406, Start Num: 22
Candidate Starts for Destructrice_2:
(Start: 22 @2633 has 13 MA's), (26, 2699), (30, 2714), (31, 2723), (54, 2957), (66, 3080),

Gene: Dwayne_25 Start: 21081, Stop: 22169, Start Num: 20
Candidate Starts for Dwayne_25:
(Start: 20 @21081 has 37 MA's), (25, 21159), (26, 21165), (42, 21321), (46, 21360), (56, 21486), (68, 21582), (78, 21681), (79, 21690), (82, 21762), (93, 21906), (101, 21942), (114, 22062),

Gene: Ejemplo_25 Start: 21116, Stop: 22204, Start Num: 20
Candidate Starts for Ejemplo_25:
(Start: 20 @21116 has 37 MA's), (25, 21194), (26, 21200), (42, 21356), (46, 21395), (56, 21521), (68, 21617), (78, 21716), (79, 21725), (82, 21794), (93, 21941), (101, 21977), (114, 22097),

Gene: Emaanora_27 Start: 21039, Stop: 22127, Start Num: 20
Candidate Starts for Emaanora_27:
(Start: 20 @21039 has 37 MA's), (25, 21117), (26, 21123), (42, 21279), (46, 21318), (56, 21444), (68, 21540), (78, 21639), (79, 21648), (82, 21720), (93, 21864), (101, 21900), (114, 22020),

Gene: Fudan_184 Start: 94435, Stop: 95508, Start Num: 19

Candidate Starts for Fudan_184:
(Start: 19 @94435 has 14 MA's), (40, 94651), (46, 94714), (57, 94843), (68, 94927), (78, 95026), (105, 95323), (116, 95473),

Gene: Galactica_29 Start: 23278, Stop: 24240, Start Num: 19
Candidate Starts for Galactica_29:
(2, 22987), (4, 23056), (Start: 19 @23278 has 14 MA's), (25, 23356), (32, 23395), (33, 23401), (42, 23518), (64, 23755), (72, 23860), (105, 24055),

Gene: Garnacho_177 Start: 94205, Stop: 95284, Start Num: 19
Candidate Starts for Garnacho_177:
(Start: 19 @94205 has 14 MA's), (28, 94298), (29, 94301), (40, 94421), (44, 94463), (57, 94613), (68, 94697), (83, 94913), (92, 95030), (105, 95099), (106, 95114),

Gene: GiJojo_177 Start: 95573, Stop: 96496, Start Num: 19
Candidate Starts for GiJojo_177:
(5, 95438), (Start: 19 @95573 has 14 MA's), (26, 95657), (46, 95852), (49, 95870), (78, 96170), (91, 96242), (100, 96278), (105, 96311), (116, 96461), (118, 96482),

Gene: Goby_26 Start: 21661, Stop: 22749, Start Num: 20
Candidate Starts for Goby_26:
(Start: 20 @21661 has 37 MA's), (25, 21739), (26, 21745), (42, 21901), (56, 22066), (68, 22162), (78, 22261), (79, 22270), (82, 22342), (93, 22486), (101, 22522), (110, 22606), (114, 22642),

Gene: Godpower_27 Start: 21654, Stop: 22748, Start Num: 20
Candidate Starts for Godpower_27:
(Start: 20 @21654 has 37 MA's), (25, 21732), (26, 21738), (42, 21894), (56, 22059), (68, 22155), (78, 22254), (79, 22263), (82, 22341), (93, 22485), (101, 22521), (110, 22605), (114, 22641),

Gene: HaugeAnator_2 Start: 2660, Stop: 3421, Start Num: 22
Candidate Starts for HaugeAnator_2:
(Start: 22 @2660 has 13 MA's), (31, 2747), (50, 2960), (61, 3053), (69, 3122), (70, 3149), (85, 3251), (87, 3278), (96, 3320),

Gene: Hippo_25 Start: 21090, Stop: 22178, Start Num: 20
Candidate Starts for Hippo_25:
(Start: 20 @21090 has 37 MA's), (25, 21168), (26, 21174), (42, 21330), (46, 21369), (56, 21495), (68, 21591), (78, 21690), (79, 21699), (82, 21771), (93, 21915), (101, 21951), (114, 22071),

Gene: Hiyaa_30 Start: 24308, Stop: 25282, Start Num: 19
Candidate Starts for Hiyaa_30:
(8, 24230), (17, 24299), (Start: 19 @24308 has 14 MA's), (25, 24386), (36, 24473), (43, 24554), (46, 24587), (58, 24758), (64, 24797), (67, 24845), (76, 24935), (81, 24971), (107, 25118), (111, 25157),

Gene: Immanuel3_2 Start: 2661, Stop: 3425, Start Num: 22
Candidate Starts for Immanuel3_2:
(Start: 22 @2661 has 13 MA's), (31, 2751), (50, 2964), (54, 2985), (61, 3057), (69, 3126), (70, 3153), (85, 3255), (87, 3282), (96, 3324),

Gene: Itza_28 Start: 21901, Stop: 22887, Start Num: 20
Candidate Starts for Itza_28:
(Start: 20 @21901 has 37 MA's), (25, 21979), (26, 21985), (35, 22060), (37, 22069), (44, 22159), (63, 22351), (67, 22393), (68, 22399),

Gene: JPandJE_3 Start: 3017, Stop: 3781, Start Num: 22
Candidate Starts for JPandJE_3:
(Start: 22 @3017 has 13 MA's), (31, 3107), (50, 3320), (54, 3341), (61, 3413), (69, 3482), (70, 3509), (85, 3611), (87, 3638), (96, 3680),

Gene: Katalie_26 Start: 21379, Stop: 22464, Start Num: 20
Candidate Starts for Katalie_26:
(Start: 20 @21379 has 37 MA's), (25, 21457), (26, 21463), (44, 21637), (56, 21784), (68, 21880), (78, 21979), (79, 21988), (82, 22054), (93, 22201), (110, 22321), (114, 22357),

Gene: Keanu_31 Start: 24375, Stop: 25334, Start Num: 19
Candidate Starts for Keanu_31:
(1, 24078), (3, 24153), (4, 24156), (7, 24267), (Start: 19 @24375 has 14 MA's), (25, 24453), (32, 24492), (42, 24615), (46, 24654), (58, 24813), (72, 24957), (104, 25143), (105, 25149), (107, 25170),

Gene: KimJongPhill_37 Start: 33176, Stop: 32256, Start Num: 18
Candidate Starts for KimJongPhill_37:
(9, 33242), (15, 33209), (Start: 18 @33176 has 2 MA's), (25, 33089), (42, 32927), (44, 32909), (52, 32822), (55, 32774), (60, 32726), (68, 32666), (70, 32633), (71, 32621), (73, 32603), (78, 32567), (89, 32516), (103, 32441), (106, 32417), (113, 32345), (117, 32270),

Gene: Kokushibo_31 Start: 24323, Stop: 25297, Start Num: 19
Candidate Starts for Kokushibo_31:
(8, 24245), (17, 24314), (Start: 19 @24323 has 14 MA's), (25, 24401), (36, 24488), (43, 24569), (46, 24602), (58, 24773), (64, 24812), (67, 24860), (76, 24950), (81, 24986), (107, 25133), (111, 25172),

Gene: Lika_26 Start: 21658, Stop: 22752, Start Num: 20
Candidate Starts for Lika_26:
(Start: 20 @21658 has 37 MA's), (25, 21736), (26, 21742), (42, 21898), (56, 22063), (68, 22159), (78, 22258), (79, 22267), (82, 22345), (93, 22489), (101, 22525), (110, 22609), (114, 22645),

Gene: Lorelei_26 Start: 21627, Stop: 22721, Start Num: 20
Candidate Starts for Lorelei_26:
(12, 21576), (Start: 20 @21627 has 37 MA's), (25, 21705), (26, 21711), (42, 21867), (56, 22032), (68, 22128), (78, 22227), (79, 22236), (82, 22311), (93, 22458), (101, 22494), (110, 22578), (114, 22614),

Gene: LuckySocke_185 Start: 94376, Stop: 95449, Start Num: 19
Candidate Starts for LuckySocke_185:
(Start: 19 @94376 has 14 MA's), (40, 94592), (46, 94655), (57, 94784), (68, 94868), (78, 94967), (105, 95264), (116, 95414),

Gene: Maneekul_25 Start: 21115, Stop: 22203, Start Num: 20
Candidate Starts for Maneekul_25:
(Start: 20 @21115 has 37 MA's), (25, 21193), (26, 21199), (42, 21355), (46, 21394), (56, 21520), (68, 21616), (78, 21715), (79, 21724), (82, 21793), (86, 21895), (93, 21940), (101, 21976), (114, 22096),

Gene: Nabi_26 Start: 21627, Stop: 22721, Start Num: 20
Candidate Starts for Nabi_26:
(12, 21576), (Start: 20 @21627 has 37 MA's), (25, 21705), (26, 21711), (42, 21867), (56, 22032), (68, 22128), (78, 22227), (79, 22236), (82, 22311), (93, 22458), (101, 22494), (110, 22578), (114, 22614),

Gene: Olicious_2 Start: 2660, Stop: 3421, Start Num: 22

Candidate Starts for Olicious_2:
(Start: 22 @2660 has 13 MA's), (31, 2747), (50, 2960), (61, 3053), (69, 3122), (70, 3149), (85, 3251), (87, 3278), (96, 3320),

Gene: OnionKnight_22 Start: 17687, Stop: 18595, Start Num: 19
Candidate Starts for OnionKnight_22:
(11, 17633), (Start: 19 @17687 has 14 MA's), (25, 17765), (27, 17777), (44, 17945), (46, 17966), (47, 17969), (62, 18131), (68, 18179), (77, 18269), (90, 18344),

Gene: OzzyJ_26 Start: 21081, Stop: 22169, Start Num: 20
Candidate Starts for OzzyJ_26:
(Start: 20 @21081 has 37 MA's), (25, 21159), (26, 21165), (42, 21321), (46, 21360), (56, 21486), (68, 21582), (78, 21681), (79, 21690), (82, 21762), (93, 21906), (101, 21942), (114, 22062),

Gene: Park1214_190 Start: 96200, Stop: 97279, Start Num: 19
Candidate Starts for Park1214_190:
(Start: 19 @96200 has 14 MA's), (46, 96479), (57, 96608), (68, 96692), (72, 96743), (105, 97094),

Gene: Percastrophe_2 Start: 2650, Stop: 3414, Start Num: 22
Candidate Starts for Percastrophe_2:
(Start: 22 @2650 has 13 MA's), (31, 2740), (50, 2953), (54, 2974), (61, 3046), (69, 3115), (70, 3142), (85, 3244), (87, 3271), (96, 3313),

Gene: Rana_26 Start: 21627, Stop: 22721, Start Num: 20
Candidate Starts for Rana_26:
(12, 21576), (Start: 20 @21627 has 37 MA's), (25, 21705), (26, 21711), (42, 21867), (56, 22032), (68, 22128), (78, 22227), (79, 22236), (82, 22311), (93, 22458), (101, 22494), (110, 22578), (114, 22614),

Gene: RedBear_27 Start: 21379, Stop: 22464, Start Num: 20
Candidate Starts for RedBear_27:
(Start: 20 @21379 has 37 MA's), (25, 21457), (26, 21463), (44, 21637), (56, 21784), (68, 21880), (78, 21979), (79, 21988), (82, 22054), (93, 22201), (110, 22321), (114, 22357),

Gene: Romero_2 Start: 2650, Stop: 3414, Start Num: 22
Candidate Starts for Romero_2:
(Start: 22 @2650 has 13 MA's), (31, 2740), (50, 2953), (54, 2974), (61, 3046), (69, 3115), (70, 3142), (85, 3244), (87, 3271), (96, 3313),

Gene: SarahRose_25 Start: 21090, Stop: 22178, Start Num: 20
Candidate Starts for SarahRose_25:
(Start: 20 @21090 has 37 MA's), (25, 21168), (26, 21174), (42, 21330), (46, 21369), (56, 21495), (68, 21591), (78, 21690), (79, 21699), (82, 21771), (93, 21915), (101, 21951), (114, 22071),

Gene: Snorlax_25 Start: 21093, Stop: 22181, Start Num: 20
Candidate Starts for Snorlax_25:
(Start: 20 @21093 has 37 MA's), (25, 21171), (26, 21177), (42, 21333), (56, 21498), (68, 21594), (78, 21693), (79, 21702), (82, 21774), (93, 21918), (101, 21954), (114, 22074),

Gene: SoJo_22 Start: 18310, Stop: 19248, Start Num: 22
Candidate Starts for SoJo_22:
(Start: 22 @18310 has 13 MA's), (23, 18319), (31, 18403), (51, 18625), (55, 18667), (61, 18709), (79, 18880), (108, 19081),

Gene: South40_26 Start: 21379, Stop: 22464, Start Num: 20
Candidate Starts for South40_26:
(Start: 20 @21379 has 37 MA's), (25, 21457), (26, 21463), (44, 21637), (56, 21784), (68, 21880), (78, 21979), (79, 21988), (82, 22054), (93, 22201), (110, 22321), (114, 22357),

Gene: Spocter_30 Start: 24296, Stop: 25270, Start Num: 19
Candidate Starts for Spocter_30:
(8, 24218), (17, 24287), (Start: 19 @24296 has 14 MA's), (25, 24374), (36, 24461), (43, 24542), (46, 24575), (58, 24746), (64, 24785), (67, 24833), (76, 24923), (81, 24959), (107, 25106), (111, 25145),

Gene: Sujidade_27 Start: 21949, Stop: 23037, Start Num: 20
Candidate Starts for Sujidade_27:
(Start: 20 @21949 has 37 MA's), (25, 22027), (26, 22033), (42, 22189), (56, 22354), (68, 22450), (78, 22549), (82, 22630), (93, 22774), (101, 22810), (110, 22894), (114, 22930),

Gene: Superstar_29 Start: 22840, Stop: 23736, Start Num: 21
Candidate Starts for Superstar_29:
(14, 22789), (21, 22840), (25, 22912), (27, 22927), (39, 23017), (42, 23059), (45, 23092), (58, 23224), (68, 23296), (97, 23485),

Gene: TagePhighter_26 Start: 21093, Stop: 22181, Start Num: 20
Candidate Starts for TagePhighter_26:
(Start: 20 @21093 has 37 MA's), (25, 21171), (26, 21177), (42, 21333), (56, 21498), (68, 21594), (78, 21693), (79, 21702), (82, 21774), (93, 21918), (101, 21954), (114, 22074),

Gene: Talos_187 Start: 94395, Stop: 95468, Start Num: 19
Candidate Starts for Talos_187:
(Start: 19 @94395 has 14 MA's), (40, 94611), (46, 94674), (57, 94803), (68, 94887), (78, 94986), (105, 95283), (116, 95433),

Gene: Tefunt_26 Start: 21591, Stop: 22544, Start Num: 13
Candidate Starts for Tefunt_26:
(6, 21522), (Start: 13 @21591 has 1 MA's), (16, 21603), (28, 21732), (41, 21843), (47, 21903), (53, 21951), (63, 22041), (74, 22164), (75, 22173), (81, 22218), (96, 22281), (97, 22293),

Gene: Toma_26 Start: 21661, Stop: 22749, Start Num: 20
Candidate Starts for Toma_26:
(Start: 20 @21661 has 37 MA's), (25, 21739), (26, 21745), (42, 21901), (56, 22066), (68, 22162), (78, 22261), (79, 22270), (82, 22342), (93, 22486), (101, 22522), (110, 22606), (114, 22642),

Gene: ToriToki_2 Start: 2650, Stop: 3414, Start Num: 22
Candidate Starts for ToriToki_2:
(Start: 22 @2650 has 13 MA's), (31, 2740), (50, 2953), (54, 2974), (61, 3046), (69, 3115), (70, 3142), (85, 3244), (87, 3271), (96, 3313),

Gene: Treat_2 Start: 2650, Stop: 3414, Start Num: 22
Candidate Starts for Treat_2:
(Start: 22 @2650 has 13 MA's), (31, 2740), (50, 2953), (54, 2974), (61, 3046), (69, 3115), (70, 3142), (85, 3244), (87, 3271), (96, 3313),

Gene: Triste_25 Start: 21081, Stop: 22169, Start Num: 20
Candidate Starts for Triste_25:

(Start: 20 @21081 has 37 MA's), (25, 21159), (26, 21165), (42, 21321), (56, 21486), (68, 21582), (78, 21681), (79, 21690), (82, 21762), (93, 21906), (101, 21942), (114, 22062),

Gene: TuanPN_25 Start: 21116, Stop: 22204, Start Num: 20
Candidate Starts for TuanPN_25:
(Start: 20 @21116 has 37 MA's), (25, 21194), (26, 21200), (42, 21356), (46, 21395), (56, 21521), (68, 21617), (78, 21716), (79, 21725), (82, 21794), (93, 21941), (101, 21977), (114, 22097),

Gene: Tubberson_22 Start: 18309, Stop: 19253, Start Num: 22
Candidate Starts for Tubberson_22:
(Start: 22 @18309 has 13 MA's), (23, 18318), (31, 18402), (51, 18624), (55, 18666), (61, 18708), (79, 18885), (108, 19086),

Gene: Urza_28 Start: 21922, Stop: 22908, Start Num: 20
Candidate Starts for Urza_28:
(Start: 20 @21922 has 37 MA's), (25, 22000), (26, 22006), (35, 22081), (37, 22090), (44, 22180), (63, 22372), (67, 22414), (68, 22420),

Gene: VieEnRose_28 Start: 21828, Stop: 22976, Start Num: 20
Candidate Starts for VieEnRose_28:
(Start: 20 @21828 has 37 MA's), (25, 21906), (26, 21912), (35, 21987), (37, 21996), (42, 22068), (44, 22086), (55, 22221), (63, 22278), (67, 22320), (68, 22326), (72, 22377), (84, 22560), (95, 22707),

Gene: Werner_25 Start: 21091, Stop: 22179, Start Num: 20
Candidate Starts for Werner_25:
(Start: 20 @21091 has 37 MA's), (25, 21169), (26, 21175), (42, 21331), (56, 21496), (68, 21592), (78, 21691), (79, 21700), (82, 21772), (93, 21916), (101, 21952), (114, 22072),

Gene: Whatever_25 Start: 21091, Stop: 22179, Start Num: 20
Candidate Starts for Whatever_25:
(Start: 20 @21091 has 37 MA's), (25, 21169), (26, 21175), (42, 21331), (56, 21496), (68, 21592), (78, 21691), (79, 21700), (82, 21772), (93, 21916), (101, 21952), (114, 22072),

Gene: Yasdnil_25 Start: 21112, Stop: 22200, Start Num: 20
Candidate Starts for Yasdnil_25:
(Start: 20 @21112 has 37 MA's), (25, 21190), (26, 21196), (42, 21352), (46, 21391), (56, 21517), (68, 21613), (78, 21712), (79, 21721), (82, 21790), (93, 21937), (101, 21973), (114, 22093),

Gene: Zemlya_27 Start: 21653, Stop: 22741, Start Num: 20
Candidate Starts for Zemlya_27:
(10, 21590), (12, 21602), (Start: 20 @21653 has 37 MA's), (25, 21731), (26, 21737), (42, 21893), (46, 21932), (56, 22058), (68, 22154), (78, 22253), (79, 22262), (82, 22334), (93, 22478), (110, 22598), (114, 22634),

Gene: ZooBear_2 Start: 2660, Stop: 3421, Start Num: 22
Candidate Starts for ZooBear_2:
(Start: 22 @2660 has 13 MA's), (31, 2747), (50, 2960), (61, 3053), (69, 3122), (70, 3149), (85, 3251), (87, 3278), (96, 3320),

Gene: Zuko_35 Start: 31679, Stop: 30726, Start Num: 18
Candidate Starts for Zuko_35:
(9, 31745), (15, 31712), (Start: 18 @31679 has 2 MA's), (25, 31592), (27, 31580), (34, 31508), (38, 31460), (44, 31397), (55, 31262), (56, 31250), (60, 31214), (68, 31151), (73, 31088), (103, 30911),

(113, 30815), (117, 30740),

Gene: phiSASD1_40 Start: 16596, Stop: 17432, Start Num: 28
Candidate Starts for phiSASD1_40:
(24, 16536), (28, 16596), (37, 16674), (57, 16905), (59, 16929), (65, 16947), (80, 17106), (94, 17172), (99, 17199), (102, 17214), (103, 17229), (109, 17271), (112, 17307), (115, 17379), (119, 17421),