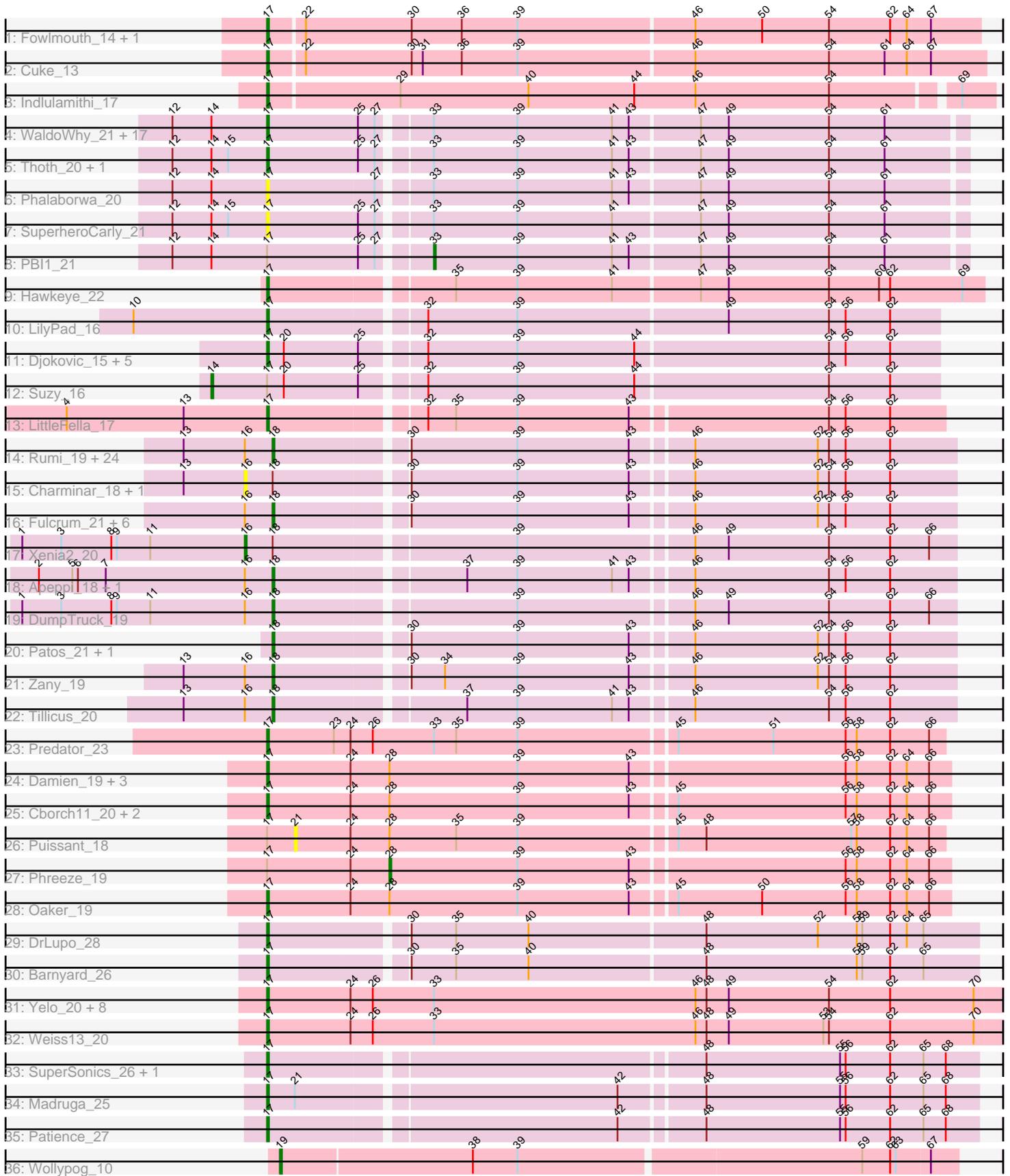Pham 283652

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 283652 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283652 has 107 members, 11 are drafts.

Phages represented in each track:
• Track 1 : Fowlmouth_14, MrMiyagi_14
• Track 2 : Cuke_13
• Track 3 : Indlulamithi_17
• Track 4 : WaldoWhy_21, Nova_20, Butterscotch_20, Gumball_19, Penelope2018_20, Chill_21, KandZ_20, SirHarley_19, Erk16_20, Giuseppe_20, Mopey_20, Helpful_21, Prager_20, BigMama_18, Troll4_20, PLot_21, Adjutor_21, Delton_20
• Track 5 : Thoth_20, Visconti_20
• Track 6 : Phalaborwa_20
• Track 7 : SuperheroCarly_21
• Track 8 : PBI1_21
• Track 9 : Hawkeye_22
• Track 10 : LilyPad_16
• Track 11 : Djokovic_15, Madi_15, Terapin_15, BiteSize_15, Sienna_15, Beyoncage_15
• Track 12 : Suzy_16
• Track 13 : LittleFella_17
• Track 14 : Rumi_19, Gibbin_21, ParvusTarda_20, Alyssamiracle_19, OtterstedtS21_20, Lambo_20, DaviePasture_20, Genamy16_19, RazorC_18, DoobyDoo_19, Avian_18, GretelLyn_20, Alephilan_18, Wojtek_19, Sadboi_20, NovaSharks_19, Erutan_20, Ranch_20, Rukungu_20, Jamemuya19_18, Sampudon_20, Astralis_18, Mima20_19, Yikes_21, Jalebi_20
• Track 15 : Charminar_18, Stormer_18
• Track 16 : Fulcrum_21, Lila22_20, MoiGyank_22, LavAbarElk_18, BirthdayBoy_21, GOATification_21, Rota_19
• Track 17 : Xenia2_20
• Track 18 : Apeppi_18, LuckyLeo_19
• Track 19 : DumpTruck_19
• Track 20 : Patos_21, NorManre_21
• Track 21 : Zany_19
• Track 22 : Tillicus_20
• Track 23 : Predator_23
• Track 24 : Damien_19, Thumb_19, BobtimousPrime_18, Megatron06_21
• Track 25 : Cborch11_20, Beckerton_19, Konstantine_24
• Track 26 : Puissant_18
• Track 27 : Phreeze_19
• Track 28 : Oaker_19

• Track 29 : DrLupo_28
• Track 30 : Barnyard_26
• Track 31 : Yelo_20, Send513_20, MontyDev_20, Candle_20, Nilo_21, Papyrus_20, Riparian_20, Zenon_21, Rope_20
• Track 32 : Weiss13_20
• Track 33 : SuperSonics_26, Labelle_26
• Track 34 : Madruga_25
• Track 35 : Patience_27
• Track 36 : Wollypog_10

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

The start number called the most often in the published annotations is 17, it was called in 55 of the 96 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Adjutor_21, Barnyard_26, Beckerton_19, Beyoncage_15, BigMama_18, BiteSize_15, BobtimousPrime_18, Butterscotch_20, Candle_20, Cborch11_20, Chill_21, Cuke_13, Damien_19, Delton_20, Djokovic_15, DrLupo_28, Erk16_20, Fowlmouth_14, Giuseppe_20, Gumball_19, Hawkeye_22, Helpful_21, Indlulamithi_17, KandZ_20, Konstantine_24, Labelle_26, LilyPad_16, LittleFella_17, Madi_15, Madruga_25, Megatron06_21, MontyDev_20, Mopey_20, MrMiyagi_14, Nilo_21, Nova_20, Oaker_19, PLot_21, Papyrus_20, Patience_27, Penelope2018_20, Phalaborwa_20, Prager_20, Predator_23, Riparian_20, Rope_20, Send513_20, Sienna_15, SirHarley_19, SuperSonics_26, SuperheroCarly_21, Terapin_15, Thoth_20, Thumb_19, Troll4_20, Visconti_20, WaldoWhy_21, Weiss13_20, Yelo_20, Zenon_21,

Genes that have the "Most Annotated" start but do not call it:
• PBI1_21, Phreeze_19, Puissant_18, Suzy_16,

Genes that do not have the "Most Annotated" start:
• Alephilan_18, Alyssamiracle_19, Apeppi_18, Astralis_18, Avian_18, BirthdayBoy_21, Charminar_18, DaviePasture_20, DoobyDoo_19, DumpTruck_19, Erutan_20, Fulcrum_21, GOATification_21, Genamy16_19, Gibbin_21, GretelLyn_20, Jalebi_20, Jamemuya19_18, Lambo_20, LavAbarElk_18, Lila22_20, LuckyLeo_19, Mima20_19, MoiGyank_22, NorManre_21, NovaSharks_19, OtterstedtS21_20, ParvusTarda_20, Patos_21, Ranch_20, RazorC_18, Rota_19, Rukungu_20, Rumi_19, Sadboi_20, Sampudon_20, Stormer_18, Tillicus_20, Wojtek_19, Wollypog_10, Xenia2_20, Yikes_21, Zany_19,

Summary by start number:

Start 14:
• Found in 24 of 107 (22.4%) of genes in pham
• Manual Annotations of this start: 1 of 96
• Called 4.2% of time when present
• Phage (with cluster) where this start called: Suzy_16 (DG1),

Start 16:

• Found in 40 of 107 (37.4%) of genes in pham
• Manual Annotations of this start: 1 of 96
• Called 7.5% of time when present
• Phage (with cluster) where this start called: Charminar_18 (DV), Stormer_18 (DV), Xenia2_20 (DV),

Start 17:
• Found in 64 of 107 (59.8%) of genes in pham
• Manual Annotations of this start: 55 of 96
• Called 93.8% of time when present
• Phage (with cluster) where this start called: Adjutor_21 (D1), Barnyard_26 (H2), Beckerton_19 (H1), Beyoncage_15 (DG1), BigMama_18 (D1), BiteSize_15 (DG1), BobtimousPrime_18 (H1), Butterscotch_20 (D1), Candle_20 (R), Cborch11_20 (H1), Chill_21 (D1), Cuke_13 (AC), Damien_19 (H1), Delton_20 (D1), Djokovic_15 (DG1), DrLupo_28 (H2), Erk16_20 (D1), Fowlmouth_14 (AC), Giuseppe_20 (D1), Gumball_19 (D1), Hawkeye_22 (D2), Helpful_21 (D1), Indlulamithi_17 (AC), KandZ_20 (D1), Konstantine_24 (H1), Labelle_26 (U), LilyPad_16 (DG1), LittleFella_17 (DG2), Madi_15 (DG1), Madruga_25 (U), Megatron06_21 (H1), MontyDev_20 (R), Mopey_20 (D1), MrMiyagi_14 (AC), Nilo_21 (R), Nova_20 (D1), Oaker_19 (H1), PLot_21 (D1), Papyrus_20 (R), Patience_27 (U), Penelope2018_20 (D1), Phalaborwa_20 (D1), Prager_20 (D1), Predator_23 (H1), Riparian_20 (R), Rope_20 (R), Send513_20 (R), Sienna_15 (DG1), SirHarley_19 (D1), SuperSonics_26 (U), SuperheroCarly_21 (D1), Terapin_15 (DG1), Thoth_20 (D1), Thumb_19 (H1), Troll4_20 (D1), Visconti_20 (D1), WaldoWhy_21 (D1), Weiss13_20 (R), Yelo_20 (R), Zenon_21 (R),

Start 18:
• Found in 42 of 107 (39.3%) of genes in pham
• Manual Annotations of this start: 36 of 96
• Called 92.9% of time when present
• Phage (with cluster) where this start called: Alephilan_18 (DV), Alyssamiracle_19 (DV), Apeppi_18 (DV), Astralis_18 (DV), Avian_18 (DV), BirthdayBoy_21 (DV), DaviePasture_20 (DV), DoobyDoo_19 (DV), DumpTruck_19 (DV), Erutan_20 (DV), Fulcrum_21 (DV), GOATification_21 (DV), Genamy16_19 (DV), Gibbin_21 (DV), GretelLyn_20 (DV), Jalebi_20 (DV), Jamemuya19_18 (DV), Lambo_20 (DV), LavAbarElk_18 (DV), Lila22_20 (DV), LuckyLeo_19 (DV), Mima20_19 (DV), MoiGyank_22 (DV), NorManre_21 (DV), NovaSharks_19 (DV), OtterstedtS21_20 (DV), ParvusTarda_20 (DV), Patos_21 (DV), Ranch_20 (DV), RazorC_18 (DV), Rota_19 (DV), Rukungu_20 (DV), Rumi_19 (DV), Sadboi_20 (DV), Sampudon_20 (DV), Tillicus_20 (DV), Wojtek_19 (DV), Yikes_21 (DV), Zany_19 (DV),

Start 19:
• Found in 1 of 107 (0.9%) of genes in pham
• Manual Annotations of this start: 1 of 96
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Wollypog_10 (singleton),

Start 21:
• Found in 2 of 107 (1.9%) of genes in pham
• No Manual Annotations of this start.
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Puissant_18 (H1),

Start 28:
• Found in 10 of 107 (9.3%) of genes in pham
• Manual Annotations of this start: 1 of 96
• Called 10.0% of time when present
• Phage (with cluster) where this start called: Phreeze_19 (H1),

Start 33:
• Found in 34 of 107 (31.8%) of genes in pham
• Manual Annotations of this start: 1 of 96
• Called 2.9% of time when present
• Phage (with cluster) where this start called: PBI1_21 (D1),

Summary by clusters:

There are 11 clusters represented in this pham: AC, H2, H1, singleton, DG2, DG1, U, DV, R, D2, D1,

Info for manual annotations of cluster AC:
•Start number 17 was manually annotated 4 times for cluster AC.

Info for manual annotations of cluster D1:
•Start number 17 was manually annotated 20 times for cluster D1.
•Start number 33 was manually annotated 1 time for cluster D1.

Info for manual annotations of cluster D2:
•Start number 17 was manually annotated 1 time for cluster D2.

Info for manual annotations of cluster DG1:
•Start number 14 was manually annotated 1 time for cluster DG1.
•Start number 17 was manually annotated 7 times for cluster DG1.

Info for manual annotations of cluster DG2:
•Start number 17 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DV:
•Start number 16 was manually annotated 1 time for cluster DV.
•Start number 18 was manually annotated 36 times for cluster DV.

Info for manual annotations of cluster H1:
•Start number 17 was manually annotated 8 times for cluster H1.
•Start number 28 was manually annotated 1 time for cluster H1.

Info for manual annotations of cluster H2:
•Start number 17 was manually annotated 2 times for cluster H2.

Info for manual annotations of cluster R:
•Start number 17 was manually annotated 9 times for cluster R.

Info for manual annotations of cluster U:
•Start number 17 was manually annotated 3 times for cluster U.

Gene Information:

Gene: Adjutor_21 Start: 13129, Stop: 13491, Start Num: 17
Candidate Starts for Adjutor_21:
(12, 13078), (Start: 14 @13099 has 1 MA's), (Start: 17 @13129 has 55 MA's), (25, 13177), (27, 13186), (Start: 33 @13210 has 1 MA's), (39, 13255), (41, 13306), (43, 13315), (47, 13351), (49, 13366), (54, 13420), (61, 13450),

Gene: Alephilan_18 Start: 13618, Stop: 13971, Start Num: 18
Candidate Starts for Alephilan_18:
(13, 13570), (Start: 16 @13603 has 1 MA's), (Start: 18 @13618 has 36 MA's), (30, 13684), (39, 13741), (43, 13801), (46, 13831), (52, 13897), (54, 13903), (56, 13912), (62, 13936),

Gene: Alyssamiracle_19 Start: 12025, Stop: 12378, Start Num: 18
Candidate Starts for Alyssamiracle_19:
(13, 11977), (Start: 16 @12010 has 1 MA's), (Start: 18 @12025 has 36 MA's), (30, 12091), (39, 12148), (43, 12208), (46, 12238), (52, 12304), (54, 12310), (56, 12319), (62, 12343),

Gene: Apeppi_18 Start: 13740, Stop: 14093, Start Num: 18
Candidate Starts for Apeppi_18:
(2, 13614), (5, 13632), (6, 13635), (7, 13650), (Start: 16 @13725 has 1 MA's), (Start: 18 @13740 has 36 MA's), (37, 13836), (39, 13863), (41, 13914), (43, 13923), (46, 13953), (54, 14025), (56, 14034), (62, 14058),

Gene: Astralis_18 Start: 12025, Stop: 12378, Start Num: 18
Candidate Starts for Astralis_18:
(13, 11977), (Start: 16 @12010 has 1 MA's), (Start: 18 @12025 has 36 MA's), (30, 12091), (39, 12148), (43, 12208), (46, 12238), (52, 12304), (54, 12310), (56, 12319), (62, 12343),

Gene: Avian_18 Start: 12025, Stop: 12378, Start Num: 18
Candidate Starts for Avian_18:
(13, 11977), (Start: 16 @12010 has 1 MA's), (Start: 18 @12025 has 36 MA's), (30, 12091), (39, 12148), (43, 12208), (46, 12238), (52, 12304), (54, 12310), (56, 12319), (62, 12343),

Gene: Barnyard_26 Start: 14807, Stop: 15178, Start Num: 17
Candidate Starts for Barnyard_26:
(Start: 17 @14807 has 55 MA's), (30, 14876), (35, 14900), (40, 14939), (48, 15032), (58, 15113), (59, 15116), (62, 15131), (65, 15149),

Gene: Beckerton_19 Start: 13539, Stop: 13901, Start Num: 17
Candidate Starts for Beckerton_19:
(Start: 17 @13539 has 55 MA's), (24, 13584), (Start: 28 @13605 has 1 MA's), (39, 13674), (43, 13734), (45, 13755), (56, 13845), (58, 13851), (62, 13869), (64, 13878), (66, 13890),

Gene: Beyoncage_15 Start: 9519, Stop: 9869, Start Num: 17
Candidate Starts for Beyoncage_15:
(Start: 17 @9519 has 55 MA's), (20, 9528), (25, 9567), (32, 9597), (39, 9645), (44, 9708), (54, 9810), (56, 9819), (62, 9843),

Gene: BigMama_18 Start: 13205, Stop: 13567, Start Num: 17
Candidate Starts for BigMama_18:
(12, 13154), (Start: 14 @13175 has 1 MA's), (Start: 17 @13205 has 55 MA's), (25, 13253), (27, 13262), (Start: 33 @13286 has 1 MA's), (39, 13331), (41, 13382), (43, 13391), (47, 13427), (49, 13442), (54,

13496), (61, 13526),

Gene: BirthdayBoy_21 Start: 14471, Stop: 14824, Start Num: 18
Candidate Starts for BirthdayBoy_21:
(Start: 16 @14456 has 1 MA's), (Start: 18 @14471 has 36 MA's), (30, 14537), (39, 14594), (43, 14654), (46, 14684), (52, 14750), (54, 14756), (56, 14765), (62, 14789),

Gene: BiteSize_15 Start: 9519, Stop: 9869, Start Num: 17
Candidate Starts for BiteSize_15:
(Start: 17 @9519 has 55 MA's), (20, 9528), (25, 9567), (32, 9597), (39, 9645), (44, 9708), (54, 9810), (56, 9819), (62, 9843),

Gene: BobtimousPrime_18 Start: 13459, Stop: 13821, Start Num: 17
Candidate Starts for BobtimousPrime_18:
(Start: 17 @13459 has 55 MA's), (24, 13504), (Start: 28 @13525 has 1 MA's), (39, 13594), (43, 13654), (56, 13765), (58, 13771), (62, 13789), (64, 13798), (66, 13810),

Gene: Butterscotch_20 Start: 13189, Stop: 13551, Start Num: 17
Candidate Starts for Butterscotch_20:
(12, 13138), (Start: 14 @13159 has 1 MA's), (Start: 17 @13189 has 55 MA's), (25, 13237), (27, 13246), (Start: 33 @13270 has 1 MA's), (39, 13315), (41, 13366), (43, 13375), (47, 13411), (49, 13426), (54, 13480), (61, 13510),

Gene: Candle_20 Start: 13524, Stop: 13919, Start Num: 17
Candidate Starts for Candle_20:
(Start: 17 @13524 has 55 MA's), (24, 13569), (26, 13581), (Start: 33 @13614 has 1 MA's), (46, 13755), (48, 13761), (49, 13773), (54, 13827), (62, 13860), (70, 13905),

Gene: Cborch11_20 Start: 13002, Stop: 13364, Start Num: 17
Candidate Starts for Cborch11_20:
(Start: 17 @13002 has 55 MA's), (24, 13047), (Start: 28 @13068 has 1 MA's), (39, 13137), (43, 13197), (45, 13218), (56, 13308), (58, 13314), (62, 13332), (64, 13341), (66, 13353),

Gene: Charminar_18 Start: 12010, Stop: 12378, Start Num: 16
Candidate Starts for Charminar_18:
(13, 11977), (Start: 16 @12010 has 1 MA's), (Start: 18 @12025 has 36 MA's), (30, 12091), (39, 12148), (43, 12208), (46, 12238), (52, 12304), (54, 12310), (56, 12319), (62, 12343),

Gene: Chill_21 Start: 13195, Stop: 13557, Start Num: 17
Candidate Starts for Chill_21:
(12, 13144), (Start: 14 @13165 has 1 MA's), (Start: 17 @13195 has 55 MA's), (25, 13243), (27, 13252), (Start: 33 @13276 has 1 MA's), (39, 13321), (41, 13372), (43, 13381), (47, 13417), (49, 13432), (54, 13486), (61, 13516),

Gene: Cuke_13 Start: 8734, Stop: 9114, Start Num: 17
Candidate Starts for Cuke_13:
(Start: 17 @8734 has 55 MA's), (22, 8752), (30, 8809), (31, 8815), (36, 8836), (39, 8866), (46, 8959), (54, 9031), (61, 9061), (64, 9073), (67, 9085),

Gene: Damien_19 Start: 13001, Stop: 13363, Start Num: 17
Candidate Starts for Damien_19:
(Start: 17 @13001 has 55 MA's), (24, 13046), (Start: 28 @13067 has 1 MA's), (39, 13136), (43, 13196), (56, 13307), (58, 13313), (62, 13331), (64, 13340), (66, 13352),

Gene: DaviePasture_20 Start: 14228, Stop: 14581, Start Num: 18
Candidate Starts for DaviePasture_20:
(13, 14180), (Start: 16 @14213 has 1 MA's), (Start: 18 @14228 has 36 MA's), (30, 14294), (39, 14351),
(43, 14411), (46, 14441), (52, 14507), (54, 14513), (56, 14522), (62, 14546),

Gene: Delton_20 Start: 13201, Stop: 13563, Start Num: 17
Candidate Starts for Delton_20:
(12, 13150), (Start: 14 @13171 has 1 MA's), (Start: 17 @13201 has 55 MA's), (25, 13249), (27, 13258),
(Start: 33 @13282 has 1 MA's), (39, 13327), (41, 13378), (43, 13387), (47, 13423), (49, 13438), (54,
13492), (61, 13522),

Gene: Djokovic_15 Start: 9519, Stop: 9869, Start Num: 17
Candidate Starts for Djokovic_15:
(Start: 17 @9519 has 55 MA's), (20, 9528), (25, 9567), (32, 9597), (39, 9645), (44, 9708), (54, 9810),
(56, 9819), (62, 9843),

Gene: DoobyDoo_19 Start: 13405, Stop: 13758, Start Num: 18
Candidate Starts for DoobyDoo_19:
(13, 13357), (Start: 16 @13390 has 1 MA's), (Start: 18 @13405 has 36 MA's), (30, 13471), (39, 13528),
(43, 13588), (46, 13618), (52, 13684), (54, 13690), (56, 13699), (62, 13723),

Gene: DrLupo_28 Start: 15206, Stop: 15577, Start Num: 17
Candidate Starts for DrLupo_28:
(Start: 17 @15206 has 55 MA's), (30, 15275), (35, 15299), (40, 15338), (48, 15431), (52, 15491), (58,
15512), (59, 15515), (62, 15530), (64, 15539), (65, 15548),

Gene: DumpTruck_19 Start: 13662, Stop: 14015, Start Num: 18
Candidate Starts for DumpTruck_19:
(1, 13527), (3, 13548), (8, 13575), (9, 13578), (11, 13596), (Start: 16 @13647 has 1 MA's), (Start: 18
@13662 has 36 MA's), (39, 13785), (46, 13875), (49, 13893), (54, 13947), (62, 13980), (66, 14001),

Gene: Erk16_20 Start: 13192, Stop: 13554, Start Num: 17
Candidate Starts for Erk16_20:
(12, 13141), (Start: 14 @13162 has 1 MA's), (Start: 17 @13192 has 55 MA's), (25, 13240), (27, 13249),
(Start: 33 @13273 has 1 MA's), (39, 13318), (41, 13369), (43, 13378), (47, 13414), (49, 13429), (54,
13483), (61, 13513),

Gene: Erutan_20 Start: 13918, Stop: 14271, Start Num: 18
Candidate Starts for Erutan_20:
(13, 13870), (Start: 16 @13903 has 1 MA's), (Start: 18 @13918 has 36 MA's), (30, 13984), (39, 14041),
(43, 14101), (46, 14131), (52, 14197), (54, 14203), (56, 14212), (62, 14236),

Gene: Fowlmouth_14 Start: 8905, Stop: 9282, Start Num: 17
Candidate Starts for Fowlmouth_14:
(Start: 17 @8905 has 55 MA's), (22, 8923), (30, 8980), (36, 9007), (39, 9037), (46, 9130), (50, 9166),
(54, 9202), (62, 9235), (64, 9244), (67, 9256),

Gene: Fulcrum_21 Start: 14451, Stop: 14804, Start Num: 18
Candidate Starts for Fulcrum_21:
(Start: 16 @14436 has 1 MA's), (Start: 18 @14451 has 36 MA's), (30, 14517), (39, 14574), (43, 14634),
(46, 14664), (52, 14730), (54, 14736), (56, 14745), (62, 14769),

Gene: GOATification_21 Start: 14451, Stop: 14804, Start Num: 18
Candidate Starts for GOATification_21:
(Start: 16 @14436 has 1 MA's), (Start: 18 @14451 has 36 MA's), (30, 14517), (39, 14574), (43, 14634), (46, 14664), (52, 14730), (54, 14736), (56, 14745), (62, 14769),

Gene: Genamy16_19 Start: 12025, Stop: 12378, Start Num: 18
Candidate Starts for Genamy16_19:
(13, 11977), (Start: 16 @12010 has 1 MA's), (Start: 18 @12025 has 36 MA's), (30, 12091), (39, 12148), (43, 12208), (46, 12238), (52, 12304), (54, 12310), (56, 12319), (62, 12343),

Gene: Gibbin_21 Start: 14511, Stop: 14864, Start Num: 18
Candidate Starts for Gibbin_21:
(13, 14463), (Start: 16 @14496 has 1 MA's), (Start: 18 @14511 has 36 MA's), (30, 14577), (39, 14634), (43, 14694), (46, 14724), (52, 14790), (54, 14796), (56, 14805), (62, 14829),

Gene: Giuseppe_20 Start: 13181, Stop: 13543, Start Num: 17
Candidate Starts for Giuseppe_20:
(12, 13130), (Start: 14 @13151 has 1 MA's), (Start: 17 @13181 has 55 MA's), (25, 13229), (27, 13238), (Start: 33 @13262 has 1 MA's), (39, 13307), (41, 13358), (43, 13367), (47, 13403), (49, 13418), (54, 13472), (61, 13502),

Gene: GretelLyn_20 Start: 14785, Stop: 15138, Start Num: 18
Candidate Starts for GretelLyn_20:
(13, 14737), (Start: 16 @14770 has 1 MA's), (Start: 18 @14785 has 36 MA's), (30, 14851), (39, 14908), (43, 14968), (46, 14998), (52, 15064), (54, 15070), (56, 15079), (62, 15103),

Gene: Gumball_19 Start: 13139, Stop: 13501, Start Num: 17
Candidate Starts for Gumball_19:
(12, 13088), (Start: 14 @13109 has 1 MA's), (Start: 17 @13139 has 55 MA's), (25, 13187), (27, 13196), (Start: 33 @13220 has 1 MA's), (39, 13265), (41, 13316), (43, 13325), (47, 13361), (49, 13376), (54, 13430), (61, 13460),

Gene: Hawkeye_22 Start: 13075, Stop: 13449, Start Num: 17
Candidate Starts for Hawkeye_22:
(Start: 17 @13075 has 55 MA's), (35, 13168), (39, 13201), (41, 13252), (47, 13297), (49, 13312), (54, 13366), (60, 13393), (62, 13399), (69, 13438),

Gene: Helpful_21 Start: 13189, Stop: 13551, Start Num: 17
Candidate Starts for Helpful_21:
(12, 13138), (Start: 14 @13159 has 1 MA's), (Start: 17 @13189 has 55 MA's), (25, 13237), (27, 13246), (Start: 33 @13270 has 1 MA's), (39, 13315), (41, 13366), (43, 13375), (47, 13411), (49, 13426), (54, 13480), (61, 13510),

Gene: Indlulamithi_17 Start: 10995, Stop: 11375, Start Num: 17
Candidate Starts for Indlulamithi_17:
(Start: 17 @10995 has 55 MA's), (29, 11064), (40, 11133), (44, 11190), (46, 11223), (54, 11295), (69, 11358),

Gene: Jalebi_20 Start: 14961, Stop: 15314, Start Num: 18
Candidate Starts for Jalebi_20:
(13, 14913), (Start: 16 @14946 has 1 MA's), (Start: 18 @14961 has 36 MA's), (30, 15027), (39, 15084), (43, 15144), (46, 15174), (52, 15240), (54, 15246), (56, 15255), (62, 15279),

Gene: Jamemuya19_18 Start: 12025, Stop: 12378, Start Num: 18
Candidate Starts for Jamemuya19_18:
(13, 11977), (Start: 16 @12010 has 1 MA's), (Start: 18 @12025 has 36 MA's), (30, 12091), (39, 12148), (43, 12208), (46, 12238), (52, 12304), (54, 12310), (56, 12319), (62, 12343),

Gene: KandZ_20 Start: 13289, Stop: 13651, Start Num: 17
Candidate Starts for KandZ_20:
(12, 13238), (Start: 14 @13259 has 1 MA's), (Start: 17 @13289 has 55 MA's), (25, 13337), (27, 13346), (Start: 33 @13370 has 1 MA's), (39, 13415), (41, 13466), (43, 13475), (47, 13511), (49, 13526), (54, 13580), (61, 13610),

Gene: Konstantine_24 Start: 14203, Stop: 14565, Start Num: 17
Candidate Starts for Konstantine_24:
(Start: 17 @14203 has 55 MA's), (24, 14248), (Start: 28 @14269 has 1 MA's), (39, 14338), (43, 14398), (45, 14419), (56, 14509), (58, 14515), (62, 14533), (64, 14542), (66, 14554),

Gene: Labelle_26 Start: 16380, Stop: 16748, Start Num: 17
Candidate Starts for Labelle_26:
(Start: 17 @16380 has 55 MA's), (48, 16602), (55, 16674), (56, 16677), (62, 16701), (65, 16719), (68, 16731),

Gene: Lambo_20 Start: 14455, Stop: 14808, Start Num: 18
Candidate Starts for Lambo_20:
(13, 14407), (Start: 16 @14440 has 1 MA's), (Start: 18 @14455 has 36 MA's), (30, 14521), (39, 14578), (43, 14638), (46, 14668), (52, 14734), (54, 14740), (56, 14749), (62, 14773),

Gene: LavAbarElk_18 Start: 12888, Stop: 13241, Start Num: 18
Candidate Starts for LavAbarElk_18:
(Start: 16 @12873 has 1 MA's), (Start: 18 @12888 has 36 MA's), (30, 12954), (39, 13011), (43, 13071), (46, 13101), (52, 13167), (54, 13173), (56, 13182), (62, 13206),

Gene: Lila22_20 Start: 14409, Stop: 14762, Start Num: 18
Candidate Starts for Lila22_20:
(Start: 16 @14394 has 1 MA's), (Start: 18 @14409 has 36 MA's), (30, 14475), (39, 14532), (43, 14592), (46, 14622), (52, 14688), (54, 14694), (56, 14703), (62, 14727),

Gene: LilyPad_16 Start: 10238, Stop: 10588, Start Num: 17
Candidate Starts for LilyPad_16:
(10, 10166), (Start: 17 @10238 has 55 MA's), (32, 10316), (39, 10364), (49, 10475), (54, 10529), (56, 10538), (62, 10562),

Gene: LittleFella_17 Start: 12130, Stop: 12480, Start Num: 17
Candidate Starts for LittleFella_17:
(4, 12022), (13, 12085), (Start: 17 @12130 has 55 MA's), (32, 12208), (35, 12223), (39, 12256), (43, 12316), (54, 12418), (56, 12427), (62, 12451),

Gene: LuckyLeo_19 Start: 13740, Stop: 14093, Start Num: 18
Candidate Starts for LuckyLeo_19:
(2, 13614), (5, 13632), (6, 13635), (7, 13650), (Start: 16 @13725 has 1 MA's), (Start: 18 @13740 has 36 MA's), (37, 13836), (39, 13863), (41, 13914), (43, 13923), (46, 13953), (54, 14025), (56, 14034), (62, 14058),

Gene: Madi_15 Start: 9519, Stop: 9869, Start Num: 17

Candidate Starts for Madi_15:
(Start: 17 @9519 has 55 MA's), (20, 9528), (25, 9567), (32, 9597), (39, 9645), (44, 9708), (54, 9810), (56, 9819), (62, 9843),

Gene: Madruga_25 Start: 16049, Stop: 16417, Start Num: 17
Candidate Starts for Madruga_25:
(Start: 17 @16049 has 55 MA's), (21, 16064), (42, 16229), (48, 16271), (55, 16343), (56, 16346), (62, 16370), (65, 16388), (68, 16400),

Gene: Megatron06_21 Start: 13536, Stop: 13898, Start Num: 17
Candidate Starts for Megatron06_21:
(Start: 17 @13536 has 55 MA's), (24, 13581), (Start: 28 @13602 has 1 MA's), (39, 13671), (43, 13731), (56, 13842), (58, 13848), (62, 13866), (64, 13875), (66, 13887),

Gene: Mima20_19 Start: 14138, Stop: 14491, Start Num: 18
Candidate Starts for Mima20_19:
(13, 14090), (Start: 16 @14123 has 1 MA's), (Start: 18 @14138 has 36 MA's), (30, 14204), (39, 14261), (43, 14321), (46, 14351), (52, 14417), (54, 14423), (56, 14432), (62, 14456),

Gene: MoiGyank_22 Start: 14822, Stop: 15175, Start Num: 18
Candidate Starts for MoiGyank_22:
(Start: 16 @14807 has 1 MA's), (Start: 18 @14822 has 36 MA's), (30, 14888), (39, 14945), (43, 15005), (46, 15035), (52, 15101), (54, 15107), (56, 15116), (62, 15140),

Gene: MontyDev_20 Start: 13182, Stop: 13577, Start Num: 17
Candidate Starts for MontyDev_20:
(Start: 17 @13182 has 55 MA's), (24, 13227), (26, 13239), (Start: 33 @13272 has 1 MA's), (46, 13413), (48, 13419), (49, 13431), (54, 13485), (62, 13518), (70, 13563),

Gene: Mopey_20 Start: 13189, Stop: 13551, Start Num: 17
Candidate Starts for Mopey_20:
(12, 13138), (Start: 14 @13159 has 1 MA's), (Start: 17 @13189 has 55 MA's), (25, 13237), (27, 13246), (Start: 33 @13270 has 1 MA's), (39, 13315), (41, 13366), (43, 13375), (47, 13411), (49, 13426), (54, 13480), (61, 13510),

Gene: MrMiyagi_14 Start: 8905, Stop: 9282, Start Num: 17
Candidate Starts for MrMiyagi_14:
(Start: 17 @8905 has 55 MA's), (22, 8923), (30, 8980), (36, 9007), (39, 9037), (46, 9130), (50, 9166), (54, 9202), (62, 9235), (64, 9244), (67, 9256),

Gene: Nilo_21 Start: 13521, Stop: 13916, Start Num: 17
Candidate Starts for Nilo_21:
(Start: 17 @13521 has 55 MA's), (24, 13566), (26, 13578), (Start: 33 @13611 has 1 MA's), (46, 13752), (48, 13758), (49, 13770), (54, 13824), (62, 13857), (70, 13902),

Gene: NorManre_21 Start: 14017, Stop: 14370, Start Num: 18
Candidate Starts for NorManre_21:
(Start: 18 @14017 has 36 MA's), (30, 14083), (39, 14140), (43, 14200), (46, 14230), (52, 14296), (54, 14302), (56, 14311), (62, 14335),

Gene: Nova_20 Start: 13616, Stop: 13978, Start Num: 17
Candidate Starts for Nova_20:

(12, 13565), (Start: 14 @13586 has 1 MA's), (Start: 17 @13616 has 55 MA's), (25, 13664), (27, 13673), (Start: 33 @13697 has 1 MA's), (39, 13742), (41, 13793), (43, 13802), (47, 13838), (49, 13853), (54, 13907), (61, 13937),

Gene: NovaSharks_19 Start: 12025, Stop: 12378, Start Num: 18
Candidate Starts for NovaSharks_19:
(13, 11977), (Start: 16 @12010 has 1 MA's), (Start: 18 @12025 has 36 MA's), (30, 12091), (39, 12148), (43, 12208), (46, 12238), (52, 12304), (54, 12310), (56, 12319), (62, 12343),

Gene: Oaker_19 Start: 13260, Stop: 13622, Start Num: 17
Candidate Starts for Oaker_19:
(Start: 17 @13260 has 55 MA's), (24, 13305), (Start: 28 @13326 has 1 MA's), (39, 13395), (43, 13455), (45, 13476), (50, 13521), (56, 13566), (58, 13572), (62, 13590), (64, 13599), (66, 13611),

Gene: OtterstedtS21_20 Start: 14107, Stop: 14460, Start Num: 18
Candidate Starts for OtterstedtS21_20:
(13, 14059), (Start: 16 @14092 has 1 MA's), (Start: 18 @14107 has 36 MA's), (30, 14173), (39, 14230), (43, 14290), (46, 14320), (52, 14386), (54, 14392), (56, 14401), (62, 14425),

Gene: PBI1_21 Start: 13201, Stop: 13482, Start Num: 33
Candidate Starts for PBI1_21:
(12, 13069), (Start: 14 @13090 has 1 MA's), (Start: 17 @13120 has 55 MA's), (25, 13168), (27, 13177), (Start: 33 @13201 has 1 MA's), (39, 13246), (41, 13297), (43, 13306), (47, 13342), (49, 13357), (54, 13411), (61, 13441),

Gene: PLot_21 Start: 13192, Stop: 13554, Start Num: 17
Candidate Starts for PLot_21:
(12, 13141), (Start: 14 @13162 has 1 MA's), (Start: 17 @13192 has 55 MA's), (25, 13240), (27, 13249), (Start: 33 @13273 has 1 MA's), (39, 13318), (41, 13369), (43, 13378), (47, 13414), (49, 13429), (54, 13483), (61, 13513),

Gene: Papyrus_20 Start: 13183, Stop: 13578, Start Num: 17
Candidate Starts for Papyrus_20:
(Start: 17 @13183 has 55 MA's), (24, 13228), (26, 13240), (Start: 33 @13273 has 1 MA's), (46, 13414), (48, 13420), (49, 13432), (54, 13486), (62, 13519), (70, 13564),

Gene: ParvusTarda_20 Start: 13589, Stop: 13942, Start Num: 18
Candidate Starts for ParvusTarda_20:
(13, 13541), (Start: 16 @13574 has 1 MA's), (Start: 18 @13589 has 36 MA's), (30, 13655), (39, 13712), (43, 13772), (46, 13802), (52, 13868), (54, 13874), (56, 13883), (62, 13907),

Gene: Patience_27 Start: 16939, Stop: 17307, Start Num: 17
Candidate Starts for Patience_27:
(Start: 17 @16939 has 55 MA's), (42, 17119), (48, 17161), (55, 17233), (56, 17236), (62, 17260), (65, 17278), (68, 17290),

Gene: Patos_21 Start: 14017, Stop: 14370, Start Num: 18
Candidate Starts for Patos_21:
(Start: 18 @14017 has 36 MA's), (30, 14083), (39, 14140), (43, 14200), (46, 14230), (52, 14296), (54, 14302), (56, 14311), (62, 14335),

Gene: Penelope2018_20 Start: 13189, Stop: 13551, Start Num: 17
Candidate Starts for Penelope2018_20:

(12, 13138), (Start: 14 @13159 has 1 MA's), (Start: 17 @13189 has 55 MA's), (25, 13237), (27, 13246), (Start: 33 @13270 has 1 MA's), (39, 13315), (41, 13366), (43, 13375), (47, 13411), (49, 13426), (54, 13480), (61, 13510),

Gene: Phalaborwa_20 Start: 13222, Stop: 13584, Start Num: 17
Candidate Starts for Phalaborwa_20:
(12, 13171), (Start: 14 @13192 has 1 MA's), (Start: 17 @13222 has 55 MA's), (27, 13279), (Start: 33 @13303 has 1 MA's), (39, 13348), (41, 13399), (43, 13408), (47, 13444), (49, 13459), (54, 13513), (61, 13543),

Gene: Phreeze_19 Start: 13067, Stop: 13363, Start Num: 28
Candidate Starts for Phreeze_19:
(Start: 17 @13001 has 55 MA's), (24, 13046), (Start: 28 @13067 has 1 MA's), (39, 13136), (43, 13196), (56, 13307), (58, 13313), (62, 13331), (64, 13340), (66, 13352),

Gene: Prager_20 Start: 13201, Stop: 13563, Start Num: 17
Candidate Starts for Prager_20:
(12, 13150), (Start: 14 @13171 has 1 MA's), (Start: 17 @13201 has 55 MA's), (25, 13249), (27, 13258), (Start: 33 @13282 has 1 MA's), (39, 13327), (41, 13378), (43, 13387), (47, 13423), (49, 13438), (54, 13492), (61, 13522),

Gene: Predator_23 Start: 14526, Stop: 14885, Start Num: 17
Candidate Starts for Predator_23:
(Start: 17 @14526 has 55 MA's), (23, 14562), (24, 14571), (26, 14583), (Start: 33 @14616 has 1 MA's), (35, 14628), (39, 14661), (45, 14742), (51, 14793), (56, 14832), (58, 14838), (62, 14856), (66, 14877),

Gene: Puissant_18 Start: 13472, Stop: 13816, Start Num: 21
Candidate Starts for Puissant_18:
(Start: 17 @13457 has 55 MA's), (21, 13472), (24, 13502), (Start: 28 @13523 has 1 MA's), (35, 13559), (39, 13592), (45, 13673), (48, 13688), (57, 13766), (58, 13769), (62, 13787), (64, 13796), (66, 13808),

Gene: Ranch_20 Start: 12955, Stop: 13308, Start Num: 18
Candidate Starts for Ranch_20:
(13, 12907), (Start: 16 @12940 has 1 MA's), (Start: 18 @12955 has 36 MA's), (30, 13021), (39, 13078), (43, 13138), (46, 13168), (52, 13234), (54, 13240), (56, 13249), (62, 13273),

Gene: RazorC_18 Start: 12025, Stop: 12378, Start Num: 18
Candidate Starts for RazorC_18:
(13, 11977), (Start: 16 @12010 has 1 MA's), (Start: 18 @12025 has 36 MA's), (30, 12091), (39, 12148), (43, 12208), (46, 12238), (52, 12304), (54, 12310), (56, 12319), (62, 12343),

Gene: Riparian_20 Start: 12982, Stop: 13377, Start Num: 17
Candidate Starts for Riparian_20:
(Start: 17 @12982 has 55 MA's), (24, 13027), (26, 13039), (Start: 33 @13072 has 1 MA's), (46, 13213), (48, 13219), (49, 13231), (54, 13285), (62, 13318), (70, 13363),

Gene: Rope_20 Start: 13174, Stop: 13569, Start Num: 17
Candidate Starts for Rope_20:
(Start: 17 @13174 has 55 MA's), (24, 13219), (26, 13231), (Start: 33 @13264 has 1 MA's), (46, 13405), (48, 13411), (49, 13423), (54, 13477), (62, 13510), (70, 13555),

Gene: Rota_19 Start: 13913, Stop: 14266, Start Num: 18
Candidate Starts for Rota_19:

(Start: 16 @13898 has 1 MA's), (Start: 18 @13913 has 36 MA's), (30, 13979), (39, 14036), (43, 14096), (46, 14126), (52, 14192), (54, 14198), (56, 14207), (62, 14231),

Gene: Rukungu_20 Start: 14654, Stop: 15007, Start Num: 18
Candidate Starts for Rukungu_20:
(13, 14606), (Start: 16 @14639 has 1 MA's), (Start: 18 @14654 has 36 MA's), (30, 14720), (39, 14777), (43, 14837), (46, 14867), (52, 14933), (54, 14939), (56, 14948), (62, 14972),

Gene: Rumi_19 Start: 12025, Stop: 12378, Start Num: 18
Candidate Starts for Rumi_19:
(13, 11977), (Start: 16 @12010 has 1 MA's), (Start: 18 @12025 has 36 MA's), (30, 12091), (39, 12148), (43, 12208), (46, 12238), (52, 12304), (54, 12310), (56, 12319), (62, 12343),

Gene: Sadboi_20 Start: 14785, Stop: 15138, Start Num: 18
Candidate Starts for Sadboi_20:
(13, 14737), (Start: 16 @14770 has 1 MA's), (Start: 18 @14785 has 36 MA's), (30, 14851), (39, 14908), (43, 14968), (46, 14998), (52, 15064), (54, 15070), (56, 15079), (62, 15103),

Gene: Sampudon_20 Start: 14961, Stop: 15314, Start Num: 18
Candidate Starts for Sampudon_20:
(13, 14913), (Start: 16 @14946 has 1 MA's), (Start: 18 @14961 has 36 MA's), (30, 15027), (39, 15084), (43, 15144), (46, 15174), (52, 15240), (54, 15246), (56, 15255), (62, 15279),

Gene: Send513_20 Start: 13524, Stop: 13919, Start Num: 17
Candidate Starts for Send513_20:
(Start: 17 @13524 has 55 MA's), (24, 13569), (26, 13581), (Start: 33 @13614 has 1 MA's), (46, 13755), (48, 13761), (49, 13773), (54, 13827), (62, 13860), (70, 13905),

Gene: Sienna_15 Start: 9519, Stop: 9869, Start Num: 17
Candidate Starts for Sienna_15:
(Start: 17 @9519 has 55 MA's), (20, 9528), (25, 9567), (32, 9597), (39, 9645), (44, 9708), (54, 9810), (56, 9819), (62, 9843),

Gene: SirHarley_19 Start: 13121, Stop: 13483, Start Num: 17
Candidate Starts for SirHarley_19:
(12, 13070), (Start: 14 @13091 has 1 MA's), (Start: 17 @13121 has 55 MA's), (25, 13169), (27, 13178), (Start: 33 @13202 has 1 MA's), (39, 13247), (41, 13298), (43, 13307), (47, 13343), (49, 13358), (54, 13412), (61, 13442),

Gene: Stormer_18 Start: 12010, Stop: 12378, Start Num: 16
Candidate Starts for Stormer_18:
(13, 11977), (Start: 16 @12010 has 1 MA's), (Start: 18 @12025 has 36 MA's), (30, 12091), (39, 12148), (43, 12208), (46, 12238), (52, 12304), (54, 12310), (56, 12319), (62, 12343),

Gene: SuperSonics_26 Start: 16106, Stop: 16474, Start Num: 17
Candidate Starts for SuperSonics_26:
(Start: 17 @16106 has 55 MA's), (48, 16328), (55, 16400), (56, 16403), (62, 16427), (65, 16445), (68, 16457),

Gene: SuperheroCarly_21 Start: 13051, Stop: 13413, Start Num: 17
Candidate Starts for SuperheroCarly_21:
(12, 13000), (Start: 14 @13021 has 1 MA's), (15, 13030), (Start: 17 @13051 has 55 MA's), (25, 13099), (27, 13108), (Start: 33 @13132 has 1 MA's), (39, 13177), (41, 13228), (47, 13273), (49, 13288), (54,

13342), (61, 13372),

Gene: Suzy_16 Start: 10717, Stop: 11097, Start Num: 14
Candidate Starts for Suzy_16:
(Start: 14 @10717 has 1 MA's), (Start: 17 @10747 has 55 MA's), (20, 10756), (25, 10795), (32, 10825), (39, 10873), (44, 10936), (54, 11038), (62, 11071),

Gene: Terapin_15 Start: 9519, Stop: 9869, Start Num: 17
Candidate Starts for Terapin_15:
(Start: 17 @9519 has 55 MA's), (20, 9528), (25, 9567), (32, 9597), (39, 9645), (44, 9708), (54, 9810), (56, 9819), (62, 9843),

Gene: Thoth_20 Start: 13186, Stop: 13548, Start Num: 17
Candidate Starts for Thoth_20:
(12, 13135), (Start: 14 @13156 has 1 MA's), (15, 13165), (Start: 17 @13186 has 55 MA's), (25, 13234), (27, 13243), (Start: 33 @13267 has 1 MA's), (39, 13312), (41, 13363), (43, 13372), (47, 13408), (49, 13423), (54, 13477), (61, 13507),

Gene: Thumb_19 Start: 13002, Stop: 13364, Start Num: 17
Candidate Starts for Thumb_19:
(Start: 17 @13002 has 55 MA's), (24, 13047), (Start: 28 @13068 has 1 MA's), (39, 13137), (43, 13197), (56, 13308), (58, 13314), (62, 13332), (64, 13341), (66, 13353),

Gene: Tillicus_20 Start: 13334, Stop: 13687, Start Num: 18
Candidate Starts for Tillicus_20:
(13, 13286), (Start: 16 @13319 has 1 MA's), (Start: 18 @13334 has 36 MA's), (37, 13430), (39, 13457), (41, 13508), (43, 13517), (46, 13547), (54, 13619), (56, 13628), (62, 13652),

Gene: Troll4_20 Start: 13190, Stop: 13552, Start Num: 17
Candidate Starts for Troll4_20:
(12, 13139), (Start: 14 @13160 has 1 MA's), (Start: 17 @13190 has 55 MA's), (25, 13238), (27, 13247), (Start: 33 @13271 has 1 MA's), (39, 13316), (41, 13367), (43, 13376), (47, 13412), (49, 13427), (54, 13481), (61, 13511),

Gene: Visconti_20 Start: 13199, Stop: 13561, Start Num: 17
Candidate Starts for Visconti_20:
(12, 13148), (Start: 14 @13169 has 1 MA's), (15, 13178), (Start: 17 @13199 has 55 MA's), (25, 13247), (27, 13256), (Start: 33 @13280 has 1 MA's), (39, 13325), (41, 13376), (43, 13385), (47, 13421), (49, 13436), (54, 13490), (61, 13520),

Gene: WaldoWhy_21 Start: 13195, Stop: 13557, Start Num: 17
Candidate Starts for WaldoWhy_21:
(12, 13144), (Start: 14 @13165 has 1 MA's), (Start: 17 @13195 has 55 MA's), (25, 13243), (27, 13252), (Start: 33 @13276 has 1 MA's), (39, 13321), (41, 13372), (43, 13381), (47, 13417), (49, 13432), (54, 13486), (61, 13516),

Gene: Weiss13_20 Start: 13214, Stop: 13609, Start Num: 17
Candidate Starts for Weiss13_20:
(Start: 17 @13214 has 55 MA's), (24, 13259), (26, 13271), (Start: 33 @13304 has 1 MA's), (46, 13445), (48, 13451), (49, 13463), (53, 13514), (54, 13517), (62, 13550), (70, 13595),

Gene: Wojtek_19 Start: 13662, Stop: 14015, Start Num: 18
Candidate Starts for Wojtek_19:

(13, 13614), (Start: 16 @13647 has 1 MA's), (Start: 18 @13662 has 36 MA's), (30, 13728), (39, 13785), (43, 13845), (46, 13875), (52, 13941), (54, 13947), (56, 13956), (62, 13980),

Gene: Wollypog_10 Start: 8603, Stop: 8959, Start Num: 19
Candidate Starts for Wollypog_10:
(Start: 19 @8603 has 1 MA's), (38, 8705), (39, 8729), (59, 8909), (62, 8924), (63, 8927), (67, 8945),

Gene: Xenia2_20 Start: 13689, Stop: 14057, Start Num: 16
Candidate Starts for Xenia2_20:
(1, 13569), (3, 13590), (8, 13617), (9, 13620), (11, 13638), (Start: 16 @13689 has 1 MA's), (Start: 18 @13704 has 36 MA's), (39, 13827), (46, 13917), (49, 13935), (54, 13989), (62, 14022), (66, 14043),

Gene: Yelo_20 Start: 13524, Stop: 13919, Start Num: 17
Candidate Starts for Yelo_20:
(Start: 17 @13524 has 55 MA's), (24, 13569), (26, 13581), (Start: 33 @13614 has 1 MA's), (46, 13755), (48, 13761), (49, 13773), (54, 13827), (62, 13860), (70, 13905),

Gene: Yikes_21 Start: 15046, Stop: 15399, Start Num: 18
Candidate Starts for Yikes_21:
(13, 14998), (Start: 16 @15031 has 1 MA's), (Start: 18 @15046 has 36 MA's), (30, 15112), (39, 15169), (43, 15229), (46, 15259), (52, 15325), (54, 15331), (56, 15340), (62, 15364),

Gene: Zany_19 Start: 14175, Stop: 14528, Start Num: 18
Candidate Starts for Zany_19:
(13, 14127), (Start: 16 @14160 has 1 MA's), (Start: 18 @14175 has 36 MA's), (30, 14241), (34, 14259), (39, 14298), (43, 14358), (46, 14388), (52, 14454), (54, 14460), (56, 14469), (62, 14493),

Gene: Zenon_21 Start: 13526, Stop: 13921, Start Num: 17
Candidate Starts for Zenon_21:
(Start: 17 @13526 has 55 MA's), (24, 13571), (26, 13583), (Start: 33 @13616 has 1 MA's), (46, 13757), (48, 13763), (49, 13775), (54, 13829), (62, 13862), (70, 13907),