Pham 283692

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 283692 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 283692 has 89 members, 2 are drafts.

Phages represented in each track:
- Track 1 : Lorelei_27
- Track 2 : Asten_26, Toma_27, Maneekul_26, Yasdnil_26, Goby_27, Emaanora_28
- Track 3 : Caliburn_27, BeardedLady_28, Leviticus_27, Aaronocolus_27, Phettuccine_27, Hydra_29, Ozzie_27
- Track 4 : Lika_27, Godpower_28
- Track 5 : Oliynyk_28, Jash_28, BryanRecycles_28, Eddasa_28, Rusticus_28
- Track 6 : TuanPN_26, Ejemplo_26
- Track 7 : Esperer_27, Nerdos_27, Indigo_26
- Track 8 : Snorlax_26, Hippo_26, Werner_26, Dwayne_26, SarahRose_26, Chucky_26, BarryBee_28, TagePhighter_27, Whatever_26, Triste_26
- Track 9 : Danzina_28, Zemlya_28
- Track 10 : Celeste_27, Dattran_28
- Track 11 : EnochSoames_30
- Track 12 : Brataylor_29
- Track 13 : RedBear_28
- Track 14 : Nanodon_29
- Track 15 : Unstoppable_27, Legacy_27
- Track 16 : Sujidade_28
- Track 17 : OzzyJ_27
- Track 18 : Rana_27, Nabi_27
- Track 19 : Izzy_28
- Track 20 : South40_27, Katalie_27
- Track 21 : SunsetPointe_27, Bovely_27
- Track 22 : Paolo_29, Zainub_29
- Track 23 : Amethyst_27
- Track 24 : Issmi_28
- Track 25 : Superstar_30
- Track 26 : Animus_28, SqueakyClean_28, GirlDinner_27, Janus_28
- Track 27 : Thestral_28, TinaBelcher_27
- Track 28 : Bowden_28
- Track 29 : Diane_27
- Track 30 : Paedore_27
- Track 31 : Haizum_27, Nishikigoi_27, Tefunt_27

- Track 32 : R4_27
- Track 33 : TrvxScott_26
- Track 34 : Hank144_28
- Track 35 : Marav_30
- Track 36 : Daudau_27
- Track 37 : Omar_28
- Track 38 : Axiom_28, Triumph_29
- Track 39 : Puginator_29
- Track 40 : Alvy_29, BartholomewSD_29
- Track 41 : Pablito_27
- Track 42 : Andris_27
- Track 43 : Loofah_28
- Track 44 : Caelum_28
- Track 45 : ELB20_26
- Track 46 : Jevington_29

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 55 of the 87 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Alvy_29, Amethyst_27, Andris_27, Animus_28, Axiom_28, BarryBee_28, BartholomewSD_29, Bowden_28, Caelum_28, Chucky_26, Danzina_28, Diane_27, Dwayne_26, Esperer_27, GirlDinner_27, Godpower_28, Haizum_27, Hank144_28, Hippo_26, Indigo_26, Issmi_28, Izzy_28, Janus_28, Jevington_29, Katalie_27, Legacy_27, Lika_27, Loofah_28, Lorelei_27, Marav_30, Nerdos_27, Nishikigoi_27, Omar_28, OzzyJ_27, Paedore_27, Paolo_29, Puginator_29, R4_27, SarahRose_26, Snorlax_26, South40_27, SqueakyClean_28, Sujidade_28, Superstar_30, TagePhighter_27, Tefunt_27, Thestral_28, TinaBelcher_27, Triste_26, Triumph_29, TrvxScott_26, Unstoppable_27, Werner_26, Whatever_26, Zainub_29, Zemlya_28,

Genes that have the "Most Annotated" start but do not call it:
- Aaronocolus_27, Asten_26, BeardedLady_28, Bovely_27, Brataylor_29, BryanRecycles_28, Caliburn_27, Celeste_27, Dattran_28, Daudau_27, ELB20_26, Eddasa_28, Ejemplo_26, Emaanora_28, EnochSoames_30, Goby_27, Hydra_29, Jash_28, Leviticus_27, Maneekul_26, Nabi_27, Nanodon_29, Oliynyk_28, Ozzie_27, Pablito_27, Phettuccine_27, Rana_27, RedBear_28, Rusticus_28, SunsetPointe_27, Toma_27, TuanPN_26, Yasdnil_26,

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

Summary by start number:

Start 19:
- Found in 2 of 89 (2.2%) of genes in pham
- Manual Annotations of this start: 2 of 87
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Daudau_27 (BD2), Pablito_27 (BD2),

Start 20:
• Found in 89 of 89 (100.0%) of genes in pham
• Manual Annotations of this start: 55 of 87
• Called 62.9% of time when present
• Phage (with cluster) where this start called: Alvy_29 (BD2), Amethyst_27 (BD2), Andris_27 (BD2), Animus_28 (BD2), Axiom_28 (BD2), BarryBee_28 (BD1), BartholomewSD_29 (BD2), Bowden_28 (BD2), Caelum_28 (BD2), Chucky_26 (BD1), Danzina_28 (BD1), Diane_27 (BD2), Dwayne_26 (BD1), Esperer_27 (BD1), GirlDinner_27 (BD2), Godpower_28 (BD1), Haizum_27 (BD2), Hank144_28 (BD2), Hippo_26 (BD1), Indigo_26 (BD1), Issmi_28 (BD2), Izzy_28 (BD1), Janus_28 (BD2), Jevington_29 (BD2), Katalie_27 (BD1), Legacy_27 (BD1), Lika_27 (BD1), Loofah_28 (BD2), Lorelei_27 (BD1), Marav_30 (BD2), Nerdos_27 (BD1), Nishikigoi_27 (BD2), Omar_28 (BD2), OzzyJ_27 (BD1), Paedore_27 (BD2), Paolo_29 (BD2), Puginator_29 (BD2), R4_27 (BD2), SarahRose_26 (BD1), Snorlax_26 (BD1), South40_27 (BD1), SqueakyClean_28 (BD2), Sujidade_28 (BD1), Superstar_30 (BD2), TagePhighter_27 (BD1), Tefunt_27 (BD2), Thestral_28 (BD2), TinaBelcher_27 (BD2), Triste_26 (BD1), Triumph_29 (BD2), TrvxScott_26 (BD2), Unstoppable_27 (BD1), Werner_26 (BD1), Whatever_26 (BD1), Zainub_29 (BD2), Zemlya_28 (BD1),

Start 21:
• Found in 55 of 89 (61.8%) of genes in pham
• Manual Annotations of this start: 29 of 87
• Called 54.5% of time when present
• Phage (with cluster) where this start called: Aaronocolus_27 (BD1), Asten_26 (BD1), BeardedLady_28 (BD1), Bovely_27 (BD1), Brataylor_29 (BD1), BryanRecycles_28 (BD1), Caliburn_27 (BD1), Celeste_27 (BD1), Dattran_28 (BD1), Eddasa_28 (BD1), Ejemplo_26 (BD1), Emaanora_28 (BD1), EnochSoames_30 (BD1), Goby_27 (BD1), Hydra_29 (BD1), Jash_28 (BD1), Leviticus_27 (BD1), Maneekul_26 (BD1), Nabi_27 (BD1), Nanodon_29 (BD1), Oliynyk_28 (BD1), Ozzie_27 (BD1), Phettuccine_27 (BD1), Rana_27 (BD1), RedBear_28 (BD1), Rusticus_28 (BD1), SunsetPointe_27 (BD1), Toma_27 (BD1), TuanPN_26 (BD1), Yasdnil_26 (BD1),

Start 25:
• Found in 8 of 89 (9.0%) of genes in pham
• Manual Annotations of this start: 1 of 87
• Called 12.5% of time when present
• Phage (with cluster) where this start called: ELB20_26 (BD2),

Summary by clusters:

There are 2 clusters represented in this pham: BD1, BD2,

Info for manual annotations of cluster BD1:
•Start number 20 was manually annotated 25 times for cluster BD1.
•Start number 21 was manually annotated 29 times for cluster BD1.

Info for manual annotations of cluster BD2:
•Start number 19 was manually annotated 2 times for cluster BD2.
•Start number 20 was manually annotated 30 times for cluster BD2.
•Start number 25 was manually annotated 1 time for cluster BD2.

Gene Information:

Gene: Aaronocolus_27 Start: 21931, Stop: 22191, Start Num: 21
Candidate Starts for Aaronocolus_27:
(15, 21580), (Start: 20 @21925 has 55 MA's), (Start: 21 @21931 has 29 MA's), (23, 21952), (28, 22018), (29, 22021), (37, 22084),

Gene: Alvy_29 Start: 22860, Stop: 23069, Start Num: 20
Candidate Starts for Alvy_29:
(Start: 20 @22860 has 55 MA's), (22, 22878), (Start: 25 @22899 has 1 MA's), (28, 22947), (33, 22971), (38, 23019),

Gene: Amethyst_27 Start: 22528, Stop: 22740, Start Num: 20
Candidate Starts for Amethyst_27:
(10, 22036), (14, 22156), (Start: 20 @22528 has 55 MA's), (22, 22546), (31, 22633),

Gene: Andris_27 Start: 22516, Stop: 22728, Start Num: 20
Candidate Starts for Andris_27:
(Start: 20 @22516 has 55 MA's), (31, 22621),

Gene: Animus_28 Start: 22858, Stop: 23064, Start Num: 20
Candidate Starts for Animus_28:
(Start: 20 @22858 has 55 MA's), (22, 22876), (31, 22963),

Gene: Asten_26 Start: 22171, Stop: 22434, Start Num: 21
Candidate Starts for Asten_26:
(15, 21811), (Start: 20 @22165 has 55 MA's), (Start: 21 @22171 has 29 MA's), (29, 22261), (32, 22279), (36, 22321), (41, 22357),

Gene: Axiom_28 Start: 22683, Stop: 22886, Start Num: 20
Candidate Starts for Axiom_28:
(Start: 20 @22683 has 55 MA's), (22, 22701), (31, 22788),

Gene: BarryBee_28 Start: 22175, Stop: 22444, Start Num: 20
Candidate Starts for BarryBee_28:
(15, 21821), (Start: 20 @22175 has 55 MA's), (Start: 21 @22181 has 29 MA's), (29, 22271), (32, 22289), (36, 22331), (41, 22367),

Gene: BartholomewSD_29 Start: 22860, Stop: 23069, Start Num: 20
Candidate Starts for BartholomewSD_29:
(Start: 20 @22860 has 55 MA's), (22, 22878), (Start: 25 @22899 has 1 MA's), (28, 22947), (33, 22971), (38, 23019),

Gene: BeardedLady_28 Start: 22184, Stop: 22444, Start Num: 21
Candidate Starts for BeardedLady_28:
(15, 21833), (Start: 20 @22178 has 55 MA's), (Start: 21 @22184 has 29 MA's), (23, 22205), (28, 22271), (29, 22274), (37, 22337),

Gene: Bovely_27 Start: 21937, Stop: 22197, Start Num: 21
Candidate Starts for Bovely_27:
(15, 21586), (Start: 20 @21931 has 55 MA's), (Start: 21 @21937 has 29 MA's), (23, 21958), (28, 22024), (29, 22027), (37, 22090), (40, 22114),

Gene: Bowden_28 Start: 22785, Stop: 22994, Start Num: 20
Candidate Starts for Bowden_28:
(Start: 20 @22785 has 55 MA's), (22, 22803), (Start: 25 @22824 has 1 MA's), (33, 22896), (38, 22944),

Gene: Brataylor_29 Start: 23190, Stop: 23453, Start Num: 21
Candidate Starts for Brataylor_29:
(15, 22827), (Start: 20 @23184 has 55 MA's), (Start: 21 @23190 has 29 MA's), (29, 23280), (32, 23298), (36, 23340), (41, 23376),

Gene: BryanRecycles_28 Start: 22288, Stop: 22548, Start Num: 21
Candidate Starts for BryanRecycles_28:
(1, 21373), (2, 21388), (8, 21691), (9, 21715), (15, 21937), (Start: 20 @22282 has 55 MA's), (Start: 21 @22288 has 29 MA's), (23, 22309), (28, 22375), (29, 22378), (37, 22441),

Gene: Caelum_28 Start: 22499, Stop: 22711, Start Num: 20
Candidate Starts for Caelum_28:
(4, 21806), (6, 21824), (Start: 20 @22499 has 55 MA's), (22, 22517), (31, 22604),

Gene: Caliburn_27 Start: 21914, Stop: 22174, Start Num: 21
Candidate Starts for Caliburn_27:
(15, 21563), (Start: 20 @21908 has 55 MA's), (Start: 21 @21914 has 29 MA's), (23, 21935), (28, 22001), (29, 22004), (37, 22067),

Gene: Celeste_27 Start: 22637, Stop: 22900, Start Num: 21
Candidate Starts for Celeste_27:
(15, 22277), (Start: 20 @22631 has 55 MA's), (Start: 21 @22637 has 29 MA's), (29, 22727), (32, 22745), (36, 22787), (40, 22814), (41, 22823),

Gene: Chucky_26 Start: 22179, Stop: 22448, Start Num: 20
Candidate Starts for Chucky_26:
(15, 21825), (Start: 20 @22179 has 55 MA's), (Start: 21 @22185 has 29 MA's), (29, 22275), (32, 22293), (36, 22335), (41, 22371),

Gene: Danzina_28 Start: 22932, Stop: 23201, Start Num: 20
Candidate Starts for Danzina_28:
(15, 22578), (Start: 20 @22932 has 55 MA's), (Start: 21 @22938 has 29 MA's), (29, 23028), (32, 23046), (36, 23088), (40, 23115), (41, 23124),

Gene: Dattran_28 Start: 22747, Stop: 23010, Start Num: 21
Candidate Starts for Dattran_28:
(15, 22387), (Start: 20 @22741 has 55 MA's), (Start: 21 @22747 has 29 MA's), (29, 22837), (32, 22855), (36, 22897), (40, 22924), (41, 22933),

Gene: Daudau_27 Start: 22524, Stop: 22754, Start Num: 19
Candidate Starts for Daudau_27:
(16, 22419), (18, 22521), (Start: 19 @22524 has 2 MA's), (Start: 20 @22530 has 55 MA's), (26, 22575), (31, 22635), (35, 22665), (36, 22680),

Gene: Diane_27 Start: 22864, Stop: 23076, Start Num: 20
Candidate Starts for Diane_27:
(10, 22369), (14, 22489), (Start: 20 @22864 has 55 MA's), (22, 22882), (31, 22969),

Gene: Dwayne_26 Start: 22166, Stop: 22435, Start Num: 20

Candidate Starts for Dwayne_26:
(15, 21812), (Start: 20 @22166 has 55 MA's), (Start: 21 @22172 has 29 MA's), (29, 22262), (32, 22280), (36, 22322), (41, 22358),

Gene: ELB20_26 Start: 22980, Stop: 23153, Start Num: 25
Candidate Starts for ELB20_26:
(Start: 20 @22941 has 55 MA's), (22, 22959), (Start: 25 @22980 has 1 MA's), (30, 23040), (31, 23046),

Gene: Eddasa_28 Start: 22288, Stop: 22548, Start Num: 21
Candidate Starts for Eddasa_28:
(1, 21373), (2, 21388), (8, 21691), (9, 21715), (15, 21937), (Start: 20 @22282 has 55 MA's), (Start: 21 @22288 has 29 MA's), (23, 22309), (28, 22375), (29, 22378), (37, 22441),

Gene: Ejemplo_26 Start: 22207, Stop: 22467, Start Num: 21
Candidate Starts for Ejemplo_26:
(15, 21844), (Start: 20 @22201 has 55 MA's), (Start: 21 @22207 has 29 MA's), (29, 22297), (36, 22357), (41, 22393),

Gene: Emaanora_28 Start: 22130, Stop: 22393, Start Num: 21
Candidate Starts for Emaanora_28:
(15, 21770), (Start: 20 @22124 has 55 MA's), (Start: 21 @22130 has 29 MA's), (29, 22220), (32, 22238), (36, 22280), (41, 22316),

Gene: EnochSoames_30 Start: 22283, Stop: 22543, Start Num: 21
Candidate Starts for EnochSoames_30:
(1, 21368), (2, 21383), (3, 21518), (8, 21686), (9, 21710), (15, 21932), (Start: 20 @22277 has 55 MA's), (Start: 21 @22283 has 29 MA's), (23, 22304), (28, 22370), (29, 22373), (37, 22436),

Gene: Esperer_27 Start: 21744, Stop: 22010, Start Num: 20
Candidate Starts for Esperer_27:
(15, 21399), (Start: 20 @21744 has 55 MA's), (Start: 21 @21750 has 29 MA's), (23, 21771), (28, 21837), (29, 21840), (37, 21903), (40, 21927),

Gene: GirlDinner_27 Start: 22520, Stop: 22726, Start Num: 20
Candidate Starts for GirlDinner_27:
(Start: 20 @22520 has 55 MA's), (22, 22538), (31, 22625),

Gene: Goby_27 Start: 22752, Stop: 23015, Start Num: 21
Candidate Starts for Goby_27:
(15, 22392), (Start: 20 @22746 has 55 MA's), (Start: 21 @22752 has 29 MA's), (29, 22842), (32, 22860), (36, 22902), (41, 22938),

Gene: Godpower_28 Start: 22745, Stop: 23014, Start Num: 20
Candidate Starts for Godpower_28:
(15, 22391), (Start: 20 @22745 has 55 MA's), (Start: 21 @22751 has 29 MA's), (29, 22841), (36, 22901), (41, 22937),

Gene: Haizum_27 Start: 22538, Stop: 22750, Start Num: 20
Candidate Starts for Haizum_27:
(Start: 20 @22538 has 55 MA's), (22, 22556), (31, 22643),

Gene: Hank144_28 Start: 22954, Stop: 23166, Start Num: 20
Candidate Starts for Hank144_28:

(17, 22891), (Start: 20 @22954 has 55 MA's), (22, 22972), (31, 23059), (34, 23071),

Gene: Hippo_26 Start: 22175, Stop: 22444, Start Num: 20
Candidate Starts for Hippo_26:
(15, 21821), (Start: 20 @22175 has 55 MA's), (Start: 21 @22181 has 29 MA's), (29, 22271), (32, 22289), (36, 22331), (41, 22367),

Gene: Hydra_29 Start: 22462, Stop: 22722, Start Num: 21
Candidate Starts for Hydra_29:
(15, 22111), (Start: 20 @22456 has 55 MA's), (Start: 21 @22462 has 29 MA's), (23, 22483), (28, 22549), (29, 22552), (37, 22615),

Gene: Indigo_26 Start: 21924, Stop: 22190, Start Num: 20
Candidate Starts for Indigo_26:
(15, 21579), (Start: 20 @21924 has 55 MA's), (Start: 21 @21930 has 29 MA's), (23, 21951), (28, 22017), (29, 22020), (37, 22083), (40, 22107),

Gene: Issmi_28 Start: 23141, Stop: 23353, Start Num: 20
Candidate Starts for Issmi_28:
(Start: 20 @23141 has 55 MA's), (22, 23162), (31, 23249), (33, 23255),

Gene: Izzy_28 Start: 22329, Stop: 22595, Start Num: 20
Candidate Starts for Izzy_28:
(1, 21420), (2, 21435), (8, 21738), (9, 21762), (15, 21984), (Start: 20 @22329 has 55 MA's), (Start: 21 @22335 has 29 MA's), (23, 22356), (28, 22422), (29, 22425), (37, 22488),

Gene: Janus_28 Start: 22858, Stop: 23064, Start Num: 20
Candidate Starts for Janus_28:
(Start: 20 @22858 has 55 MA's), (22, 22876), (31, 22963),

Gene: Jash_28 Start: 22288, Stop: 22548, Start Num: 21
Candidate Starts for Jash_28:
(1, 21373), (2, 21388), (8, 21691), (9, 21715), (15, 21937), (Start: 20 @22282 has 55 MA's), (Start: 21 @22288 has 29 MA's), (23, 22309), (28, 22375), (29, 22378), (37, 22441),

Gene: Jevington_29 Start: 23193, Stop: 23402, Start Num: 20
Candidate Starts for Jevington_29:
(Start: 20 @23193 has 55 MA's), (22, 23211), (31, 23298),

Gene: Katalie_27 Start: 22461, Stop: 22727, Start Num: 20
Candidate Starts for Katalie_27:
(15, 22104), (Start: 20 @22461 has 55 MA's), (Start: 21 @22467 has 29 MA's), (28, 22554), (29, 22557), (37, 22620), (41, 22653),

Gene: Legacy_27 Start: 21899, Stop: 22165, Start Num: 20
Candidate Starts for Legacy_27:
(15, 21554), (Start: 20 @21899 has 55 MA's), (Start: 21 @21905 has 29 MA's), (23, 21926), (28, 21992), (29, 21995), (37, 22058),

Gene: Leviticus_27 Start: 21934, Stop: 22194, Start Num: 21
Candidate Starts for Leviticus_27:
(15, 21583), (Start: 20 @21928 has 55 MA's), (Start: 21 @21934 has 29 MA's), (23, 21955), (28, 22021), (29, 22024), (37, 22087),

Gene: Lika_27 Start: 22749, Stop: 23018, Start Num: 20
Candidate Starts for Lika_27:
(15, 22395), (Start: 20 @22749 has 55 MA's), (Start: 21 @22755 has 29 MA's), (29, 22845), (36, 22905), (41, 22941),

Gene: Loofah_28 Start: 22838, Stop: 23050, Start Num: 20
Candidate Starts for Loofah_28:
(5, 22157), (7, 22241), (Start: 20 @22838 has 55 MA's), (22, 22856), (Start: 25 @22877 has 1 MA's), (31, 22943),

Gene: Lorelei_27 Start: 22718, Stop: 22987, Start Num: 20
Candidate Starts for Lorelei_27:
(15, 22361), (Start: 20 @22718 has 55 MA's), (Start: 21 @22724 has 29 MA's), (29, 22814), (32, 22832), (36, 22874), (40, 22901), (41, 22910),

Gene: Maneekul_26 Start: 22206, Stop: 22466, Start Num: 21
Candidate Starts for Maneekul_26:
(15, 21843), (Start: 20 @22200 has 55 MA's), (Start: 21 @22206 has 29 MA's), (29, 22296), (32, 22314), (36, 22356), (41, 22392),

Gene: Marav_30 Start: 23529, Stop: 23738, Start Num: 20
Candidate Starts for Marav_30:
(Start: 20 @23529 has 55 MA's), (22, 23547), (31, 23634),

Gene: Nabi_27 Start: 22724, Stop: 22987, Start Num: 21
Candidate Starts for Nabi_27:
(15, 22361), (Start: 20 @22718 has 55 MA's), (Start: 21 @22724 has 29 MA's), (29, 22814), (32, 22832), (36, 22874), (40, 22901), (41, 22910),

Gene: Nanodon_29 Start: 22564, Stop: 22827, Start Num: 21
Candidate Starts for Nanodon_29:
(8, 21964), (9, 21988), (15, 22213), (Start: 20 @22558 has 55 MA's), (Start: 21 @22564 has 29 MA's), (27, 22624), (28, 22651), (29, 22654), (32, 22672), (39, 22732), (41, 22750),

Gene: Nerdos_27 Start: 21922, Stop: 22188, Start Num: 20
Candidate Starts for Nerdos_27:
(15, 21577), (Start: 20 @21922 has 55 MA's), (Start: 21 @21928 has 29 MA's), (23, 21949), (28, 22015), (29, 22018), (37, 22081), (40, 22105),

Gene: Nishikigoi_27 Start: 22538, Stop: 22750, Start Num: 20
Candidate Starts for Nishikigoi_27:
(Start: 20 @22538 has 55 MA's), (22, 22556), (31, 22643),

Gene: Oliynyk_28 Start: 22288, Stop: 22548, Start Num: 21
Candidate Starts for Oliynyk_28:
(1, 21373), (2, 21388), (8, 21691), (9, 21715), (15, 21937), (Start: 20 @22282 has 55 MA's), (Start: 21 @22288 has 29 MA's), (23, 22309), (28, 22375), (29, 22378), (37, 22441),

Gene: Omar_28 Start: 22805, Stop: 23014, Start Num: 20
Candidate Starts for Omar_28:
(12, 22373), (Start: 20 @22805 has 55 MA's), (22, 22823), (24, 22838), (31, 22910),

Gene: Ozzie_27 Start: 21914, Stop: 22174, Start Num: 21
Candidate Starts for Ozzie_27:
(15, 21563), (Start: 20 @21908 has 55 MA's), (Start: 21 @21914 has 29 MA's), (23, 21935), (28, 22001), (29, 22004), (37, 22067),

Gene: OzzyJ_27 Start: 22166, Stop: 22435, Start Num: 20
Candidate Starts for OzzyJ_27:
(Start: 20 @22166 has 55 MA's), (Start: 21 @22172 has 29 MA's), (29, 22262), (32, 22280), (36, 22322), (41, 22358),

Gene: Pablito_27 Start: 22406, Stop: 22624, Start Num: 19
Candidate Starts for Pablito_27:
(16, 22301), (18, 22403), (Start: 19 @22406 has 2 MA's), (Start: 20 @22412 has 55 MA's), (22, 22430), (31, 22517), (34, 22529),

Gene: Paedore_27 Start: 22838, Stop: 23050, Start Num: 20
Candidate Starts for Paedore_27:
(Start: 20 @22838 has 55 MA's), (22, 22856), (Start: 25 @22877 has 1 MA's), (31, 22943),

Gene: Paolo_29 Start: 23192, Stop: 23401, Start Num: 20
Candidate Starts for Paolo_29:
(Start: 20 @23192 has 55 MA's), (22, 23210),

Gene: Phettuccine_27 Start: 21930, Stop: 22190, Start Num: 21
Candidate Starts for Phettuccine_27:
(15, 21579), (Start: 20 @21924 has 55 MA's), (Start: 21 @21930 has 29 MA's), (23, 21951), (28, 22017), (29, 22020), (37, 22083),

Gene: Puginator_29 Start: 23207, Stop: 23416, Start Num: 20
Candidate Starts for Puginator_29:
(Start: 20 @23207 has 55 MA's), (22, 23225), (31, 23312),

Gene: R4_27 Start: 22952, Stop: 23164, Start Num: 20
Candidate Starts for R4_27:
(Start: 20 @22952 has 55 MA's), (22, 22970), (Start: 25 @22991 has 1 MA's), (30, 23051), (31, 23057),

Gene: Rana_27 Start: 22724, Stop: 22987, Start Num: 21
Candidate Starts for Rana_27:
(15, 22361), (Start: 20 @22718 has 55 MA's), (Start: 21 @22724 has 29 MA's), (29, 22814), (32, 22832), (36, 22874), (40, 22901), (41, 22910),

Gene: RedBear_28 Start: 22467, Stop: 22727, Start Num: 21
Candidate Starts for RedBear_28:
(Start: 20 @22461 has 55 MA's), (Start: 21 @22467 has 29 MA's), (28, 22554), (29, 22557), (37, 22620), (41, 22653),

Gene: Rusticus_28 Start: 22288, Stop: 22548, Start Num: 21
Candidate Starts for Rusticus_28:
(1, 21373), (2, 21388), (8, 21691), (9, 21715), (15, 21937), (Start: 20 @22282 has 55 MA's), (Start: 21 @22288 has 29 MA's), (23, 22309), (28, 22375), (29, 22378), (37, 22441),

Gene: SarahRose_26 Start: 22175, Stop: 22444, Start Num: 20
Candidate Starts for SarahRose_26:

(15, 21821), (Start: 20 @22175 has 55 MA's), (Start: 21 @22181 has 29 MA's), (29, 22271), (32, 22289), (36, 22331), (41, 22367),

Gene: Snorlax_26 Start: 22178, Stop: 22447, Start Num: 20
Candidate Starts for Snorlax_26:
(15, 21824), (Start: 20 @22178 has 55 MA's), (Start: 21 @22184 has 29 MA's), (29, 22274), (32, 22292), (36, 22334), (41, 22370),

Gene: South40_27 Start: 22461, Stop: 22727, Start Num: 20
Candidate Starts for South40_27:
(15, 22104), (Start: 20 @22461 has 55 MA's), (Start: 21 @22467 has 29 MA's), (28, 22554), (29, 22557), (37, 22620), (41, 22653),

Gene: SqueakyClean_28 Start: 22784, Stop: 22990, Start Num: 20
Candidate Starts for SqueakyClean_28:
(Start: 20 @22784 has 55 MA's), (22, 22802), (31, 22889),

Gene: Sujidade_28 Start: 23034, Stop: 23303, Start Num: 20
Candidate Starts for Sujidade_28:
(15, 22680), (Start: 20 @23034 has 55 MA's), (Start: 21 @23040 has 29 MA's), (29, 23130), (36, 23190), (41, 23226),

Gene: SunsetPointe_27 Start: 21921, Stop: 22181, Start Num: 21
Candidate Starts for SunsetPointe_27:
(15, 21570), (Start: 20 @21915 has 55 MA's), (Start: 21 @21921 has 29 MA's), (23, 21942), (28, 22008), (29, 22011), (37, 22074), (40, 22098),

Gene: Superstar_30 Start: 23733, Stop: 23945, Start Num: 20
Candidate Starts for Superstar_30:
(11, 23250), (13, 23310), (Start: 20 @23733 has 55 MA's), (22, 23751), (31, 23838),

Gene: TagePhighter_27 Start: 22178, Stop: 22447, Start Num: 20
Candidate Starts for TagePhighter_27:
(15, 21824), (Start: 20 @22178 has 55 MA's), (Start: 21 @22184 has 29 MA's), (29, 22274), (32, 22292), (36, 22334), (41, 22370),

Gene: Tefunt_27 Start: 22541, Stop: 22753, Start Num: 20
Candidate Starts for Tefunt_27:
(Start: 20 @22541 has 55 MA's), (22, 22559), (31, 22646),

Gene: Thestral_28 Start: 22774, Stop: 22983, Start Num: 20
Candidate Starts for Thestral_28:
(Start: 20 @22774 has 55 MA's), (22, 22792), (33, 22885), (34, 22891), (36, 22924), (38, 22933),

Gene: TinaBelcher_27 Start: 22721, Stop: 22930, Start Num: 20
Candidate Starts for TinaBelcher_27:
(Start: 20 @22721 has 55 MA's), (22, 22739), (33, 22832), (34, 22838), (36, 22871), (38, 22880),

Gene: Toma_27 Start: 22752, Stop: 23015, Start Num: 21
Candidate Starts for Toma_27:
(15, 22392), (Start: 20 @22746 has 55 MA's), (Start: 21 @22752 has 29 MA's), (29, 22842), (32, 22860), (36, 22902), (41, 22938),

Gene: Triste_26 Start: 22166, Stop: 22435, Start Num: 20
Candidate Starts for Triste_26:
(15, 21812), (Start: 20 @22166 has 55 MA's), (Start: 21 @22172 has 29 MA's), (29, 22262), (32, 22280), (36, 22322), (41, 22358),

Gene: Triumph_29 Start: 22699, Stop: 22902, Start Num: 20
Candidate Starts for Triumph_29:
(Start: 20 @22699 has 55 MA's), (22, 22717), (31, 22804),

Gene: TrvxScott_26 Start: 22767, Stop: 22976, Start Num: 20
Candidate Starts for TrvxScott_26:
(Start: 20 @22767 has 55 MA's), (22, 22785), (Start: 25 @22806 has 1 MA's), (33, 22878), (38, 22926),

Gene: TuanPN_26 Start: 22207, Stop: 22467, Start Num: 21
Candidate Starts for TuanPN_26:
(15, 21844), (Start: 20 @22201 has 55 MA's), (Start: 21 @22207 has 29 MA's), (29, 22297), (36, 22357), (41, 22393),

Gene: Unstoppable_27 Start: 21919, Stop: 22185, Start Num: 20
Candidate Starts for Unstoppable_27:
(15, 21574), (Start: 20 @21919 has 55 MA's), (Start: 21 @21925 has 29 MA's), (23, 21946), (28, 22012), (29, 22015), (37, 22078),

Gene: Werner_26 Start: 22176, Stop: 22445, Start Num: 20
Candidate Starts for Werner_26:
(15, 21822), (Start: 20 @22176 has 55 MA's), (Start: 21 @22182 has 29 MA's), (29, 22272), (32, 22290), (36, 22332), (41, 22368),

Gene: Whatever_26 Start: 22176, Stop: 22445, Start Num: 20
Candidate Starts for Whatever_26:
(15, 21822), (Start: 20 @22176 has 55 MA's), (Start: 21 @22182 has 29 MA's), (29, 22272), (32, 22290), (36, 22332), (41, 22368),

Gene: Yasdnil_26 Start: 22203, Stop: 22463, Start Num: 21
Candidate Starts for Yasdnil_26:
(15, 21840), (Start: 20 @22197 has 55 MA's), (Start: 21 @22203 has 29 MA's), (29, 22293), (32, 22311), (36, 22353), (41, 22389),

Gene: Zainub_29 Start: 23156, Stop: 23365, Start Num: 20
Candidate Starts for Zainub_29:
(Start: 20 @23156 has 55 MA's), (22, 23174),

Gene: Zemlya_28 Start: 22738, Stop: 23007, Start Num: 20
Candidate Starts for Zemlya_28:
(15, 22384), (Start: 20 @22738 has 55 MA's), (Start: 21 @22744 has 29 MA's), (29, 22834), (32, 22852), (36, 22894), (40, 22921), (41, 22930),