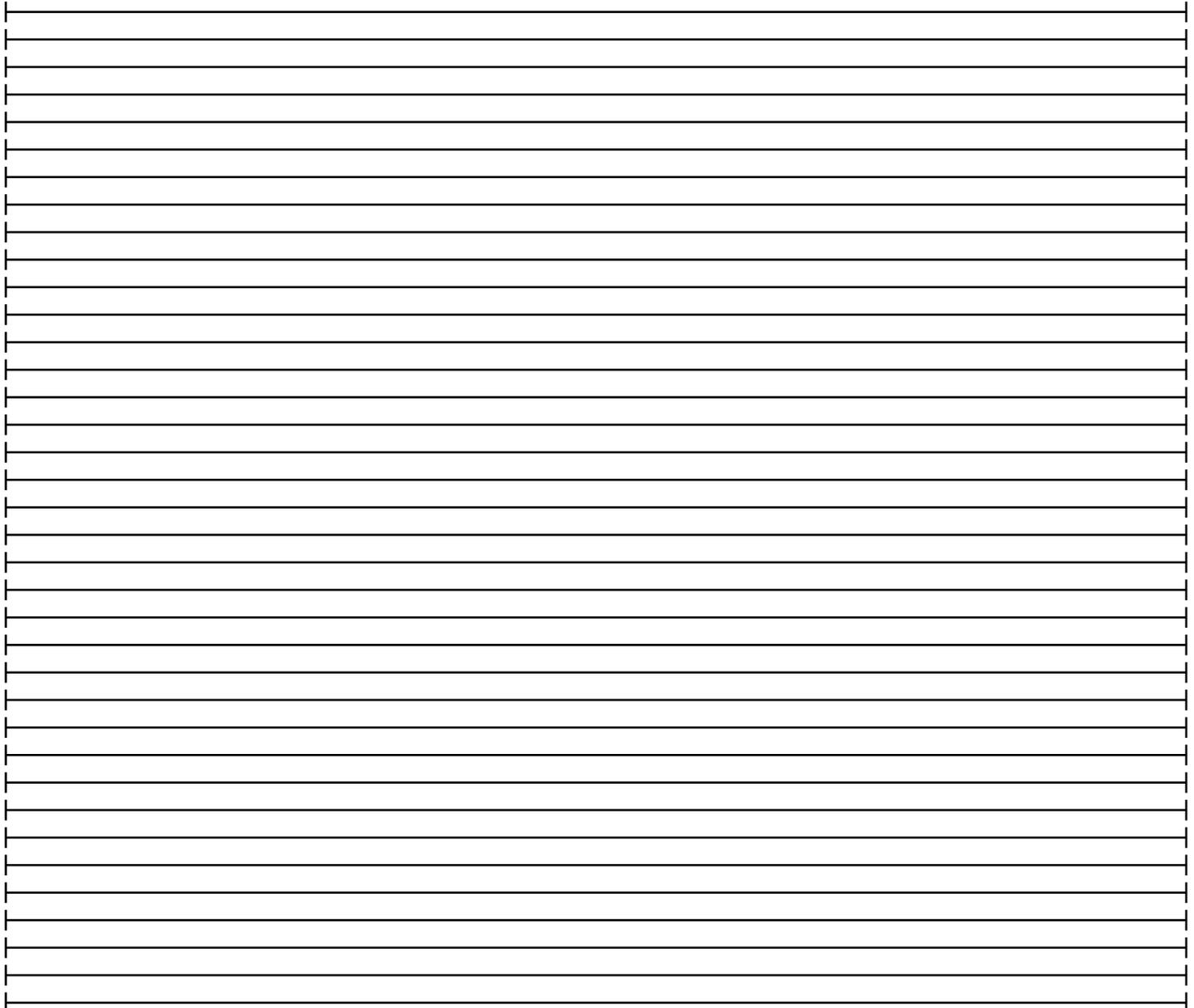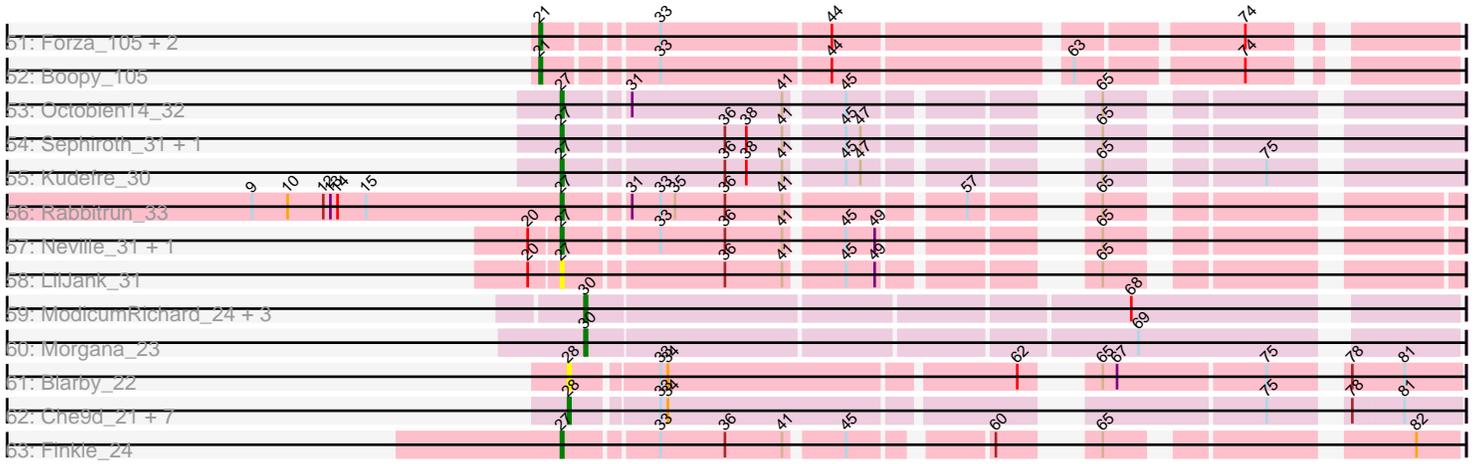Pham 290940

Pham 290940

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 290940 Report

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

Pham number 290940 has 138 members, 26 are drafts.

Phages represented in each track:
• Track 1 : Gustav_26
• Track 2 : Mahdia_26
• Track 3 : Applejacks_26
• Track 4 : Puppers_26, Widow_26
• Track 5 : Morrissey_27
• Track 6 : Trine_25
• Track 7 : Horseradish_27, Yummy_27
• Track 8 : Nibbles_28
• Track 9 : Emalyn_25
• Track 10 : Carsonalex_27, RedBaron_27
• Track 11 : MScarn_28
• Track 12 : Tolls_28, AndPeggy_25, CanesSauce_26, BillDoor_28, Yarn_25, SteamedHams_28, CaramelLatte_26, ChocoMunchkin_26
• Track 13 : Orla_30
• Track 14 : Elinal_29, KayGee_28
• Track 15 : Fribs8_27
• Track 16 : Burnsey_26, RSchmailzl_27, RADical_27, Typhonomachy_26, Axym_26, Sopespian_26, GoldHunter_27, Cozz_26, Socotra_27, PsychoKiller_26, Starburst_27, Bubble_26, Eliott_26, Quasar_26
• Track 17 : Feastonyeet_26, Balloona_26, MAnor_28, CocoaPuff_26, SheckWes_27, Tarnish_27, Mayweather_29, PotPie_27, Lauer_27, Bavilard_27, BigChungus_26
• Track 18 : Blondies_27, Biskit_27, Troje_26, SketchMex_25
• Track 19 : McDazzle_26, Pons_28, ElJefes_26
• Track 20 : Hexbug_30
• Track 21 : Margaret_31
• Track 22 : Dre3_26, Gibbous_26
• Track 23 : MaVan_28
• Track 24 : ChickenTender_29
• Track 25 : Jamzy_30
• Track 26 : Amok_25, AikoCarson_25
• Track 27 : Buttrmlkdreams_26
• Track 28 : Azira_28, Zareef_28, Wolfwood_30
• Track 29 : Yucky_27, Vine_28
• Track 30 : Nina_27, Agatha_26
• Track 31 : GiKK_30
• Track 32 : Nodigi_30
• Track 33 : Survivors_28

• Track 34 : Button_28
• Track 35 : SweatNTears_28
• Track 36 : Yakult_29
• Track 37 : MunkgeeRoachy_26
• Track 38 : RanchParmCat_30
• Track 39 : Cleo_26
• Track 40 : HippoPololi_28
• Track 41 : SummitAcademy_27
• Track 42 : CherryonLim_29
• Track 43 : Sahara_26, Haley23_27, GemG_27, Whiteclaw_27, Clap_27, TuertoX_27
• Track 44 : Gizermo_27, Jalleen_27, Savage_27, Cynthia_27, Ebert_27, Sproutie_27, Mocha12_27
• Track 45 : LordFarquaad_27
• Track 46 : Yeet412_27, Attis_27, Bjanes7_27, SoilAssassin_27
• Track 47 : Volt_59, Fryberger_57, Ziko_60
• Track 48 : Guey18_62
• Track 49 : Keelan_55
• Track 50 : Sixama_103
• Track 51 : Forza_105, BlueNGold_104, Mareelih_103
• Track 52 : Boopy_105
• Track 53 : Octobien14_32
• Track 54 : Sephiroth_31, Syleon_31
• Track 55 : Kudefre_30
• Track 56 : Rabbitrun_33
• Track 57 : Neville_31, Trax_31
• Track 58 : LilJank_31
• Track 59 : ModicumRichard_24, ObLaDi_24, Aleemily_23, Cafasso_24
• Track 60 : Morgana_23
• Track 61 : Blarby_22
• Track 62 : Che9d_21, Zapner_22, Avani_21, SilverChicken_21, Jabbawokkie_23, Demsculpinboyz_21, Soul22_21, Yoshi_21
• Track 63 : Finkle_24

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

The start number called the most often in the published annotations is 30, it was called in 50 of the 112 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Agatha_26, AikoCarson_25, Aleemily_23, Amok_25, AndPeggy_25, Axym_26, Azira_28, BillDoor_28, Biskit_27, Blondies_27, Bubble_26, Burnsey_26, Button_28, Buttrmlkdreams_26, Cafasso_24, CanesSauce_26, CaramelLatte_26, Carsonalex_27, ChickenTender_29, ChocoMunchkin_26, Cleo_26, Cozz_26, Dre3_26, Eliott_26, Emalyn_25, Fribs8_27, GiKK_30, Gibbous_26, GoldHunter_27, Hexbug_30, HippoPololi_28, Horseradish_27, Jamzy_30, MScarn_28, MaVan_28, Margaret_31, ModicumRichard_24, Morgana_23, MunkgeeRoachy_26, Nibbles_28, Nina_27, Nodigi_30, ObLaDi_24, Orla_30, PsychoKiller_26, Quasar_26, RADical_27, RSchmailzl_27, RanchParmCat_30, RedBaron_27, SketchMex_25, Socotra_27, Sopespian_26, Starburst_27, SteamedHams_28, Survivors_28, SweatNTears_28,

Tolls_28, Troje_26, Typhonomachy_26, Wolfwood_30, Yakult_29, Yarn_25, Yummy_27, Zareef_28,

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

Genes that do not have the "Most Annotated" start:
• Applejacks_26, Attis_27, Avani_21, Balloona_26, Bavilard_27, BigChungus_26, Bjanes7_27, Blarby_22, BlueNGold_104, Boopy_105, Che9d_21, CherryonLim_29, Clap_27, CocoaPuff_26, Cynthia_27, Demsculpinboyz_21, Ebert_27, ElJefes_26, Elinal_29, Feastonyeet_26, Finkle_24, Forza_105, Fryberger_57, GemG_27, Gizermo_27, Guey18_62, Gustav_26, Haley23_27, Jabbawokkie_23, Jalleen_27, KayGee_28, Keelan_55, Kudefre_30, Lauer_27, LilJank_31, LordFarquaad_27, MAnor_28, Mahdia_26, Mareelih_103, Mayweather_29, McDazzle_26, Mocha12_27, Morrissey_27, Neville_31, Octobien14_32, Pons_28, PotPie_27, Puppers_26, Rabbitrun_33, Sahara_26, Savage_27, Sephiroth_31, SheckWes_27, SilverChicken_21, Sixama_103, SoilAssassin_27, Soul22_21, Sproutie_27, SummitAcademy_27, Syleon_31, Tarnish_27, Trax_31, Trine_25, TuertoX_27, Vine_28, Volt_59, Whiteclaw_27, Widow_26, Yeet412_27, Yoshi_21, Yucky_27, Zapner_22, Ziko_60,

Summary by start number:

Start 19:
• Found in 1 of 138 (0.7%) of genes in pham
• Manual Annotations of this start: 1 of 112
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CherryonLim_29 (CT),

Start 21:
• Found in 5 of 138 (3.6%) of genes in pham
• Manual Annotations of this start: 5 of 112
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BlueNGold_104 (DS), Boopy_105 (DS), Forza_105 (DS), Mareelih_103 (DS), Sixama_103 (DS),

Start 23:
• Found in 2 of 138 (1.4%) of genes in pham
• No Manual Annotations of this start.
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Applejacks_26 (CD),

Start 24:
• Found in 1 of 138 (0.7%) of genes in pham
• Manual Annotations of this start: 1 of 112
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Mahdia_26 (CD),

Start 25:
• Found in 26 of 138 (18.8%) of genes in pham
• Manual Annotations of this start: 18 of 112
• Called 73.1% of time when present

• Phage (with cluster) where this start called: Attis_27 (CZ2), Bjanes7_27 (CZ2), Cynthia_27 (CZ2), Ebert_27 (CZ2), Fryberger_57 (DP), Gizermo_27 (CZ2), Guey18_62 (DP), Gustav_26 (CD), Jalleen_27 (CZ2), Keelan_55 (DP), Mocha12_27 (CZ2), Morrissey_27 (CD), Savage_27 (CZ2), SoilAssassin_27 (CZ2), Sproutie_27 (CZ2), Trine_25 (CD), Volt_59 (DP), Yeet412_27 (CZ2), Ziko_60 (DP),

Start 26:
• Found in 2 of 138 (1.4%) of genes in pham
• Manual Annotations of this start: 2 of 112
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Puppers_26 (CD), Widow_26 (CD),

Start 27:
• Found in 27 of 138 (19.6%) of genes in pham
• Manual Annotations of this start: 15 of 112
• Called 59.3% of time when present
• Phage (with cluster) where this start called: Clap_27 (CZ2), Finkle_24 (singleton), GemG_27 (CZ2), Haley23_27 (CZ2), Kudefre_30 (DU1), LilJank_31 (DU2), LordFarquaad_27 (CZ2), Neville_31 (DU2), Octobien14_32 (DU1), Rabbitrun_33 (DU2), Sahara_26 (CZ2), Sephiroth_31 (DU1), Syleon_31 (DU1), Trax_31 (DU2), TuertoX_27 (CZ2), Whiteclaw_27 (CZ2),

Start 28:
• Found in 9 of 138 (6.5%) of genes in pham
• Manual Annotations of this start: 7 of 112
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Avani_21 (F2), Blarby_22 (F), Che9d_21 (F2), Demsculpinboyz_21 (F2), Jabbawokkie_23 (F2), SilverChicken_21 (F2), Soul22_21 (F2), Yoshi_21 (F2), Zapner_22 (F2),

Start 29:
• Found in 20 of 138 (14.5%) of genes in pham
• Manual Annotations of this start: 13 of 112
• Called 95.0% of time when present
• Phage (with cluster) where this start called: Balloona_26 (CT), Bavilard_27 (CT), BigChungus_26 (CT), CocoaPuff_26 (CT), ElJefes_26 (CT), Elinal_29 (CT), Feastonyeet_26 (CT), KayGee_28 (CT), Lauer_27 (CT), MAnor_28 (CT), Mayweather_29 (CT), McDazzle_26 (CT), Pons_28 (CT), PotPie_27 (CT), SheckWes_27 (CT), SummitAcademy_27 (CT), Tarnish_27 (CT), Vine_28 (CT), Yucky_27 (CT),

Start 30:
• Found in 65 of 138 (47.1%) of genes in pham
• Manual Annotations of this start: 50 of 112
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Agatha_26 (CT), AikoCarson_25 (CT), Aleemily_23 (DZ), Amok_25 (CT), AndPeggy_25 (CT), Axym_26 (CT), Azira_28 (CT), BillDoor_28 (CT), Biskit_27 (CT), Blondies_27 (CT), Bubble_26 (CT), Burnsey_26 (CT), Button_28 (CT), Buttrmlkdreams_26 (CT), Cafasso_24 (DZ), CanesSauce_26 (CT), CaramelLatte_26 (CT), Carsonalex_27 (CT), ChickenTender_29 (CT), ChocoMunchkin_26 (CT), Cleo_26 (CT), Cozz_26 (CT), Dre3_26 (CT), Eliott_26 (CT), Emalyn_25 (CT), Fribs8_27 (CT), GiKK_30 (CT), Gibbous_26 (CT), GoldHunter_27 (CT), Hexbug_30 (CT), HippoPololi_28 (CT), Horseradish_27 (CT),

Jamzy_30 (CT), MScarn_28 (CT), MaVan_28 (CT), Margaret_31 (CT), ModicumRichard_24 (DZ), Morgana_23 (DZ), MunkgeeRoachy_26 (CT), Nibbles_28 (CT), Nina_27 (CT), Nodigi_30 (CT), ObLaDi_24 (DZ), Orla_30 (CT), PsychoKiller_26 (CT), Quasar_26 (CT), RADical_27 (CT), RSchmailzl_27 (CT), RanchParmCat_30 (CT), RedBaron_27 (CT), SketchMex_25 (CT), Socotra_27 (CT), Sopespian_26 (CT), Starburst_27 (CT), SteamedHams_28 (CT), Survivors_28 (CT), SweatNTears_28 (CT), Tolls_28 (CT), Troje_26 (CT), Typhonomachy_26 (CT), Wolfwood_30 (CT), Yakult_29 (CT), Yarn_25 (CT), Yummy_27 (CT), Zareef_28 (CT),

Summary by clusters:

There are 11 clusters represented in this pham: F2, F, CZ2, singleton, CD, DZ, DU1, DU2, DS, DP, CT,

Info for manual annotations of cluster CD:
•Start number 24 was manually annotated 1 time for cluster CD.
•Start number 25 was manually annotated 3 times for cluster CD.
•Start number 26 was manually annotated 2 times for cluster CD.

Info for manual annotations of cluster CT:
•Start number 19 was manually annotated 1 time for cluster CT.
•Start number 29 was manually annotated 13 times for cluster CT.
•Start number 30 was manually annotated 45 times for cluster CT.

Info for manual annotations of cluster CZ2:
•Start number 25 was manually annotated 10 times for cluster CZ2.
•Start number 27 was manually annotated 7 times for cluster CZ2.

Info for manual annotations of cluster DP:
•Start number 25 was manually annotated 5 times for cluster DP.

Info for manual annotations of cluster DS:
•Start number 21 was manually annotated 5 times for cluster DS.

Info for manual annotations of cluster DU1:
•Start number 27 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:
•Start number 27 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster DZ:
•Start number 30 was manually annotated 5 times for cluster DZ.

Info for manual annotations of cluster F2:
•Start number 28 was manually annotated 7 times for cluster F2.

Gene Information:
Gene: Agatha_26 Start: 21623, Stop: 21961, Start Num: 30
Candidate Starts for Agatha_26:

(Start: 30 @21623 has 50 MA's), (42, 21707), (59, 21782), (66, 21830), (69, 21842), (71, 21866), (76, 21902), (82, 21944),

Gene: AikoCarson_25 Start: 20901, Stop: 21239, Start Num: 30
Candidate Starts for AikoCarson_25:
(Start: 30 @20901 has 50 MA's), (39, 20970), (41, 20982), (42, 20985), (48, 21015), (66, 21108), (69, 21120), (76, 21180),

Gene: Aleemily_23 Start: 21080, Stop: 21418, Start Num: 30
Candidate Starts for Aleemily_23:
(Start: 30 @21080 has 50 MA's), (68, 21296),

Gene: Amok_25 Start: 20859, Stop: 21197, Start Num: 30
Candidate Starts for Amok_25:
(Start: 30 @20859 has 50 MA's), (39, 20928), (41, 20940), (42, 20943), (48, 20973), (66, 21066), (69, 21078), (76, 21138),

Gene: AndPeggy_25 Start: 21304, Stop: 21645, Start Num: 30
Candidate Starts for AndPeggy_25:
(Start: 30 @21304 has 50 MA's), (39, 21373), (41, 21385), (42, 21388), (66, 21514), (76, 21586),

Gene: Applejacks_26 Start: 20444, Stop: 20785, Start Num: 23
Candidate Starts for Applejacks_26:
(23, 20444), (37, 20519), (40, 20534), (58, 20621), (65, 20651), (82, 20771),

Gene: Attis_27 Start: 22281, Stop: 22592, Start Num: 25
Candidate Starts for Attis_27:
(Start: 25 @22281 has 18 MA's), (Start: 27 @22284 has 15 MA's), (36, 22347), (47, 22398), (65, 22467), (82, 22572),

Gene: Avani_21 Start: 15770, Stop: 16093, Start Num: 28
Candidate Starts for Avani_21:
(Start: 28 @15770 has 7 MA's), (33, 15803), (34, 15806), (75, 16025), (78, 16049), (81, 16070),

Gene: Axym_26 Start: 21623, Stop: 21964, Start Num: 30
Candidate Starts for Axym_26:
(Start: 30 @21623 has 50 MA's), (42, 21707), (52, 21758), (66, 21833), (69, 21845), (71, 21869), (76, 21905), (82, 21947),

Gene: Azira_28 Start: 22601, Stop: 22942, Start Num: 30
Candidate Starts for Azira_28:
(Start: 30 @22601 has 50 MA's), (36, 22658), (39, 22670), (52, 22736), (58, 22757), (64, 22799), (66, 22811), (71, 22847), (76, 22883),

Gene: Balloona_26 Start: 21507, Stop: 21830, Start Num: 29
Candidate Starts for Balloona_26:
(Start: 29 @21507 has 13 MA's), (36, 21567), (41, 21591), (58, 21669), (77, 21771),

Gene: Bavilard_27 Start: 22292, Stop: 22615, Start Num: 29
Candidate Starts for Bavilard_27:
(Start: 29 @22292 has 13 MA's), (36, 22352), (41, 22376), (58, 22454), (77, 22556),

Gene: BigChungus_26 Start: 21550, Stop: 21873, Start Num: 29

Candidate Starts for BigChungus_26:
(Start: 29 @21550 has 13 MA's), (36, 21610), (41, 21634), (58, 21712), (77, 21814),

Gene: BillDoor_28 Start: 21251, Stop: 21592, Start Num: 30
Candidate Starts for BillDoor_28:
(Start: 30 @21251 has 50 MA's), (39, 21320), (41, 21332), (42, 21335), (66, 21461), (76, 21533),

Gene: Biskit_27 Start: 21276, Stop: 21617, Start Num: 30
Candidate Starts for Biskit_27:
(Start: 30 @21276 has 50 MA's), (39, 21345), (41, 21357), (66, 21486), (73, 21531), (76, 21558),

Gene: Bjanes7_27 Start: 22281, Stop: 22592, Start Num: 25
Candidate Starts for Bjanes7_27:
(Start: 25 @22281 has 18 MA's), (Start: 27 @22284 has 15 MA's), (36, 22347), (47, 22398), (65, 22467), (82, 22572),

Gene: Blarby_22 Start: 16290, Stop: 16613, Start Num: 28
Candidate Starts for Blarby_22:
(Start: 28 @16290 has 7 MA's), (33, 16323), (34, 16326), (62, 16464), (65, 16479), (67, 16485), (75, 16545), (78, 16569), (81, 16590),

Gene: Blondies_27 Start: 21259, Stop: 21600, Start Num: 30
Candidate Starts for Blondies_27:
(Start: 30 @21259 has 50 MA's), (39, 21328), (41, 21340), (66, 21469), (73, 21514), (76, 21541),

Gene: BlueNGold_104 Start: 64169, Stop: 64501, Start Num: 21
Candidate Starts for BlueNGold_104:
(Start: 21 @64169 has 5 MA's), (33, 64211), (44, 64280), (74, 64433),

Gene: Boopy_105 Start: 64181, Stop: 64513, Start Num: 21
Candidate Starts for Boopy_105:
(Start: 21 @64181 has 5 MA's), (33, 64223), (44, 64292), (63, 64382), (74, 64445),

Gene: Bubble_26 Start: 21623, Stop: 21964, Start Num: 30
Candidate Starts for Bubble_26:
(Start: 30 @21623 has 50 MA's), (42, 21707), (52, 21758), (66, 21833), (69, 21845), (71, 21869), (76, 21905), (82, 21947),

Gene: Burnsey_26 Start: 21624, Stop: 21965, Start Num: 30
Candidate Starts for Burnsey_26:
(Start: 30 @21624 has 50 MA's), (42, 21708), (52, 21759), (66, 21834), (69, 21846), (71, 21870), (76, 21906), (82, 21948),

Gene: Button_28 Start: 21047, Stop: 21373, Start Num: 30
Candidate Starts for Button_28:
(Start: 30 @21047 has 50 MA's), (41, 21128), (46, 21155), (47, 21158), (52, 21179), (58, 21200), (78, 21329),

Gene: Buttrmlkdreams_26 Start: 21258, Stop: 21599, Start Num: 30
Candidate Starts for Buttrmlkdreams_26:
(Start: 30 @21258 has 50 MA's), (41, 21339), (66, 21468), (73, 21513), (76, 21540),

Gene: Cafasso_24 Start: 21653, Stop: 21991, Start Num: 30

Candidate Starts for Cafasso_24:
(Start: 30 @21653 has 50 MA's), (68, 21869),

Gene: CanesSauce_26 Start: 21305, Stop: 21646, Start Num: 30
Candidate Starts for CanesSauce_26:
(Start: 30 @21305 has 50 MA's), (39, 21374), (41, 21386), (42, 21389), (66, 21515), (76, 21587),

Gene: CaramelLatte_26 Start: 21305, Stop: 21646, Start Num: 30
Candidate Starts for CaramelLatte_26:
(Start: 30 @21305 has 50 MA's), (39, 21374), (41, 21386), (42, 21389), (66, 21515), (76, 21587),

Gene: Carsonalex_27 Start: 21681, Stop: 22022, Start Num: 30
Candidate Starts for Carsonalex_27:
(Start: 30 @21681 has 50 MA's), (42, 21765), (52, 21816), (66, 21891), (71, 21927), (76, 21963), (82, 22005),

Gene: Che9d_21 Start: 15778, Stop: 16101, Start Num: 28
Candidate Starts for Che9d_21:
(Start: 28 @15778 has 7 MA's), (33, 15811), (34, 15814), (75, 16033), (78, 16057), (81, 16078),

Gene: CherryonLim_29 Start: 23257, Stop: 23610, Start Num: 19
Candidate Starts for CherryonLim_29:
(Start: 19 @23257 has 1 MA's), (Start: 29 @23287 has 13 MA's), (36, 23347), (41, 23371), (58, 23449), (69, 23488), (77, 23551),

Gene: ChickenTender_29 Start: 21897, Stop: 22238, Start Num: 30
Candidate Starts for ChickenTender_29:
(23, 21885), (Start: 30 @21897 has 50 MA's), (42, 21981), (52, 22032), (66, 22107), (69, 22119), (71, 22143), (76, 22179), (82, 22221),

Gene: ChocoMunchkin_26 Start: 21305, Stop: 21646, Start Num: 30
Candidate Starts for ChocoMunchkin_26:
(Start: 30 @21305 has 50 MA's), (39, 21374), (41, 21386), (42, 21389), (66, 21515), (76, 21587),

Gene: Clap_27 Start: 22291, Stop: 22599, Start Num: 27
Candidate Starts for Clap_27:
(Start: 25 @22288 has 18 MA's), (Start: 27 @22291 has 15 MA's), (36, 22354), (65, 22474), (82, 22579),

Gene: Cleo_26 Start: 21948, Stop: 22289, Start Num: 30
Candidate Starts for Cleo_26:
(Start: 30 @21948 has 50 MA's), (36, 22005), (39, 22017), (41, 22029), (52, 22083), (58, 22104), (66, 22158), (76, 22230), (77, 22233),

Gene: CocoaPuff_26 Start: 21504, Stop: 21827, Start Num: 29
Candidate Starts for CocoaPuff_26:
(Start: 29 @21504 has 13 MA's), (36, 21564), (41, 21588), (58, 21666), (77, 21768),

Gene: Cozz_26 Start: 21624, Stop: 21965, Start Num: 30
Candidate Starts for Cozz_26:
(Start: 30 @21624 has 50 MA's), (42, 21708), (52, 21759), (66, 21834), (69, 21846), (71, 21870), (76, 21906), (82, 21948),

Gene: Cynthia_27 Start: 22288, Stop: 22599, Start Num: 25
Candidate Starts for Cynthia_27:
(Start: 25 @22288 has 18 MA's), (Start: 27 @22291 has 15 MA's), (36, 22354), (65, 22474), (82, 22579),

Gene: Demsculpinboyz_21 Start: 15763, Stop: 16086, Start Num: 28
Candidate Starts for Demsculpinboyz_21:
(Start: 28 @15763 has 7 MA's), (33, 15796), (34, 15799), (75, 16018), (78, 16042), (81, 16063),

Gene: Dre3_26 Start: 21874, Stop: 22215, Start Num: 30
Candidate Starts for Dre3_26:
(Start: 30 @21874 has 50 MA's), (36, 21931), (39, 21943), (41, 21955), (52, 22009), (58, 22030), (60, 22036), (66, 22084), (76, 22156), (77, 22159),

Gene: Ebert_27 Start: 22288, Stop: 22599, Start Num: 25
Candidate Starts for Ebert_27:
(Start: 25 @22288 has 18 MA's), (Start: 27 @22291 has 15 MA's), (36, 22354), (65, 22474), (82, 22579),

Gene: ElJefes_26 Start: 21983, Stop: 22306, Start Num: 29
Candidate Starts for ElJefes_26:
(Start: 29 @21983 has 13 MA's), (36, 22043), (58, 22145), (77, 22247),

Gene: Elinal_29 Start: 22527, Stop: 22847, Start Num: 29
Candidate Starts for Elinal_29:
(Start: 29 @22527 has 13 MA's), (37, 22590), (41, 22611), (57, 22686), (58, 22689), (69, 22728), (77, 22791),

Gene: Eliott_26 Start: 21623, Stop: 21964, Start Num: 30
Candidate Starts for Eliott_26:
(Start: 30 @21623 has 50 MA's), (42, 21707), (52, 21758), (66, 21833), (69, 21845), (71, 21869), (76, 21905), (82, 21947),

Gene: Emalyn_25 Start: 20900, Stop: 21238, Start Num: 30
Candidate Starts for Emalyn_25:
(Start: 30 @20900 has 50 MA's), (39, 20969), (41, 20981), (42, 20984), (48, 21014), (66, 21107), (69, 21119), (71, 21143), (76, 21179),

Gene: Feastonyeet_26 Start: 21550, Stop: 21873, Start Num: 29
Candidate Starts for Feastonyeet_26:
(Start: 29 @21550 has 13 MA's), (36, 21610), (41, 21634), (58, 21712), (77, 21814),

Gene: Finkle_24 Start: 21315, Stop: 21617, Start Num: 27
Candidate Starts for Finkle_24:
(Start: 27 @21315 has 15 MA's), (33, 21351), (36, 21378), (41, 21402), (45, 21423), (60, 21471), (65, 21495), (82, 21600),

Gene: Forza_105 Start: 64097, Stop: 64429, Start Num: 21
Candidate Starts for Forza_105:
(Start: 21 @64097 has 5 MA's), (33, 64139), (44, 64208), (74, 64361),

Gene: Fribs8_27 Start: 22452, Stop: 22793, Start Num: 30
Candidate Starts for Fribs8_27:

(11, 22332), (Start: 30 @22452 has 50 MA's), (36, 22509), (39, 22521), (52, 22587), (58, 22608), (66, 22662), (69, 22674), (71, 22698), (76, 22734), (77, 22737),

Gene: Fryberger_57 Start: 31459, Stop: 31815, Start Num: 25
Candidate Starts for Fryberger_57:
(Start: 25 @31459 has 18 MA's), (35, 31504), (44, 31567), (49, 31585), (53, 31609), (70, 31696), (79, 31780),

Gene: GemG_27 Start: 22291, Stop: 22599, Start Num: 27
Candidate Starts for GemG_27:
(Start: 25 @22288 has 18 MA's), (Start: 27 @22291 has 15 MA's), (36, 22354), (65, 22474), (82, 22579),

Gene: GiKK_30 Start: 21346, Stop: 21672, Start Num: 30
Candidate Starts for GiKK_30:
(Start: 30 @21346 has 50 MA's), (41, 21427), (46, 21454), (52, 21478), (78, 21628), (82, 21655),

Gene: Gibbous_26 Start: 21874, Stop: 22215, Start Num: 30
Candidate Starts for Gibbous_26:
(Start: 30 @21874 has 50 MA's), (36, 21931), (39, 21943), (41, 21955), (52, 22009), (58, 22030), (60, 22036), (66, 22084), (76, 22156), (77, 22159),

Gene: Gizermo_27 Start: 22288, Stop: 22599, Start Num: 25
Candidate Starts for Gizermo_27:
(Start: 25 @22288 has 18 MA's), (Start: 27 @22291 has 15 MA's), (36, 22354), (65, 22474), (82, 22579),

Gene: GoldHunter_27 Start: 21624, Stop: 21965, Start Num: 30
Candidate Starts for GoldHunter_27:
(Start: 30 @21624 has 50 MA's), (42, 21708), (52, 21759), (66, 21834), (69, 21846), (71, 21870), (76, 21906), (82, 21948),

Gene: Guey18_62 Start: 32651, Stop: 33007, Start Num: 25
Candidate Starts for Guey18_62:
(Start: 25 @32651 has 18 MA's), (44, 32759), (49, 32777), (53, 32801), (69, 32879), (70, 32888),

Gene: Gustav_26 Start: 21213, Stop: 21548, Start Num: 25
Candidate Starts for Gustav_26:
(Start: 25 @21213 has 18 MA's), (58, 21387), (59, 21390), (82, 21534),

Gene: Haley23_27 Start: 22291, Stop: 22599, Start Num: 27
Candidate Starts for Haley23_27:
(Start: 25 @22288 has 18 MA's), (Start: 27 @22291 has 15 MA's), (36, 22354), (65, 22474), (82, 22579),

Gene: Hexbug_30 Start: 21835, Stop: 22149, Start Num: 30
Candidate Starts for Hexbug_30:
(1, 21622), (2, 21658), (5, 21670), (6, 21673), (16, 21760), (Start: 30 @21835 has 50 MA's), (36, 21892), (47, 21946), (52, 21970), (73, 22060),

Gene: HippoPololi_28 Start: 22523, Stop: 22864, Start Num: 30
Candidate Starts for HippoPololi_28:

(Start: 30 @22523 has 50 MA's), (36, 22580), (39, 22592), (41, 22604), (66, 22733), (71, 22769), (76, 22805), (77, 22808),

Gene: Horseradish_27 Start: 21097, Stop: 21438, Start Num: 30
Candidate Starts for Horseradish_27:
(Start: 30 @21097 has 50 MA's), (39, 21166), (41, 21178), (42, 21181), (58, 21253), (66, 21307), (69, 21319), (73, 21352), (76, 21379),

Gene: Jabbawokkie_23 Start: 16293, Stop: 16616, Start Num: 28
Candidate Starts for Jabbawokkie_23:
(Start: 28 @16293 has 7 MA's), (33, 16326), (34, 16329), (75, 16548), (78, 16572), (81, 16593),

Gene: Jalleen_27 Start: 21927, Stop: 22238, Start Num: 25
Candidate Starts for Jalleen_27:
(Start: 25 @21927 has 18 MA's), (Start: 27 @21930 has 15 MA's), (36, 21993), (65, 22113), (82, 22218),

Gene: Jamzy_30 Start: 21360, Stop: 21686, Start Num: 30
Candidate Starts for Jamzy_30:
(Start: 30 @21360 has 50 MA's), (41, 21441), (46, 21468), (52, 21492), (58, 21513), (78, 21642),

Gene: KayGee_28 Start: 22527, Stop: 22847, Start Num: 29
Candidate Starts for KayGee_28:
(Start: 29 @22527 has 13 MA's), (37, 22590), (41, 22611), (57, 22686), (58, 22689), (69, 22728), (77, 22791),

Gene: Keelan_55 Start: 31456, Stop: 31812, Start Num: 25
Candidate Starts for Keelan_55:
(Start: 25 @31456 has 18 MA's), (35, 31501), (44, 31564), (49, 31582), (53, 31606), (70, 31693), (79, 31777),

Gene: Kudefre_30 Start: 25686, Stop: 25994, Start Num: 27
Candidate Starts for Kudefre_30:
(Start: 27 @25686 has 15 MA's), (36, 25749), (38, 25758), (41, 25773), (45, 25794), (47, 25800), (65, 25869), (75, 25923),

Gene: Lauer_27 Start: 22580, Stop: 22903, Start Num: 29
Candidate Starts for Lauer_27:
(Start: 29 @22580 has 13 MA's), (36, 22640), (41, 22664), (58, 22742), (77, 22844),

Gene: LilJank_31 Start: 27468, Stop: 27773, Start Num: 27
Candidate Starts for LilJank_31:
(20, 27456), (Start: 27 @27468 has 15 MA's), (36, 27531), (41, 27555), (45, 27576), (49, 27588), (65, 27651),

Gene: LordFarquaad_27 Start: 22284, Stop: 22592, Start Num: 27
Candidate Starts for LordFarquaad_27:
(Start: 25 @22281 has 18 MA's), (Start: 27 @22284 has 15 MA's), (36, 22347), (47, 22398), (65, 22467), (82, 22572),

Gene: MAnor_28 Start: 22547, Stop: 22870, Start Num: 29
Candidate Starts for MAnor_28:
(Start: 29 @22547 has 13 MA's), (36, 22607), (41, 22631), (58, 22709), (77, 22811),

Gene: MScarn_28 Start: 21261, Stop: 21602, Start Num: 30
Candidate Starts for MScarn_28:
(Start: 30 @21261 has 50 MA's), (41, 21342), (42, 21345), (66, 21471), (69, 21483), (76, 21543),

Gene: MaVan_28 Start: 22634, Stop: 22975, Start Num: 30
Candidate Starts for MaVan_28:
(Start: 30 @22634 has 50 MA's), (36, 22691), (39, 22703), (52, 22769), (58, 22790), (66, 22844), (71, 22880), (76, 22916),

Gene: Mahdia_26 Start: 20538, Stop: 20870, Start Num: 24
Candidate Starts for Mahdia_26:
(Start: 24 @20538 has 1 MA's), (34, 20583), (56, 20703), (58, 20712), (59, 20715), (65, 20742),

Gene: Mareelih_103 Start: 63599, Stop: 63931, Start Num: 21
Candidate Starts for Mareelih_103:
(Start: 21 @63599 has 5 MA's), (33, 63641), (44, 63710), (74, 63863),

Gene: Margaret_31 Start: 21555, Stop: 21884, Start Num: 30
Candidate Starts for Margaret_31:
(1, 21342), (2, 21378), (5, 21390), (6, 21393), (16, 21480), (17, 21492), (Start: 30 @21555 has 50 MA's), (36, 21612), (41, 21636), (46, 21663), (51, 21681), (78, 21840),

Gene: Mayweather_29 Start: 23163, Stop: 23486, Start Num: 29
Candidate Starts for Mayweather_29:
(Start: 29 @23163 has 13 MA's), (36, 23223), (41, 23247), (58, 23325), (77, 23427),

Gene: McDazzle_26 Start: 21977, Stop: 22300, Start Num: 29
Candidate Starts for McDazzle_26:
(Start: 29 @21977 has 13 MA's), (36, 22037), (58, 22139), (77, 22241),

Gene: Mocha12_27 Start: 22288, Stop: 22599, Start Num: 25
Candidate Starts for Mocha12_27:
(Start: 25 @22288 has 18 MA's), (Start: 27 @22291 has 15 MA's), (36, 22354), (65, 22474), (82, 22579),

Gene: ModicumRichard_24 Start: 21653, Stop: 21991, Start Num: 30
Candidate Starts for ModicumRichard_24:
(Start: 30 @21653 has 50 MA's), (68, 21869),

Gene: Morgana_23 Start: 21084, Stop: 21422, Start Num: 30
Candidate Starts for Morgana_23:
(Start: 30 @21084 has 50 MA's), (69, 21303),

Gene: Morrissey_27 Start: 22085, Stop: 22423, Start Num: 25
Candidate Starts for Morrissey_27:
(8, 21956), (Start: 25 @22085 has 18 MA's), (65, 22289), (75, 22355), (82, 22406),

Gene: MunkgeeRoachy_26 Start: 21704, Stop: 22042, Start Num: 30
Candidate Starts for MunkgeeRoachy_26:
(Start: 30 @21704 has 50 MA's), (39, 21773), (42, 21788), (59, 21863), (66, 21911), (69, 21923), (71, 21947), (76, 21983), (82, 22025),

Gene: Neville_31 Start: 27108, Stop: 27413, Start Num: 27
Candidate Starts for Neville_31:
(20, 27096), (Start: 27 @27108 has 15 MA's), (33, 27144), (36, 27171), (41, 27195), (45, 27216), (49, 27228), (65, 27291),

Gene: Nibbles_28 Start: 22633, Stop: 22974, Start Num: 30
Candidate Starts for Nibbles_28:
(11, 22513), (Start: 30 @22633 has 50 MA's), (36, 22690), (39, 22702), (52, 22768), (58, 22789), (66, 22843), (71, 22879), (76, 22915),

Gene: Nina_27 Start: 22666, Stop: 23004, Start Num: 30
Candidate Starts for Nina_27:
(Start: 30 @22666 has 50 MA's), (42, 22750), (59, 22825), (66, 22873), (69, 22885), (71, 22909), (76, 22945), (82, 22987),

Gene: Nodigi_30 Start: 21804, Stop: 22118, Start Num: 30
Candidate Starts for Nodigi_30:
(16, 21729), (Start: 30 @21804 has 50 MA's), (36, 21861), (47, 21915), (52, 21939), (73, 22029),

Gene: ObLaDi_24 Start: 21632, Stop: 21970, Start Num: 30
Candidate Starts for ObLaDi_24:
(Start: 30 @21632 has 50 MA's), (68, 21848),

Gene: Octobien14_32 Start: 26679, Stop: 26987, Start Num: 27
Candidate Starts for Octobien14_32:
(Start: 27 @26679 has 15 MA's), (31, 26703), (41, 26766), (45, 26787), (65, 26862),

Gene: Orla_30 Start: 21808, Stop: 22122, Start Num: 30
Candidate Starts for Orla_30:
(16, 21733), (Start: 30 @21808 has 50 MA's), (36, 21865), (47, 21919), (52, 21943), (61, 21967), (73, 22033),

Gene: Pons_28 Start: 22536, Stop: 22859, Start Num: 29
Candidate Starts for Pons_28:
(Start: 29 @22536 has 13 MA's), (36, 22596), (58, 22698), (77, 22800),

Gene: PotPie_27 Start: 22369, Stop: 22692, Start Num: 29
Candidate Starts for PotPie_27:
(Start: 29 @22369 has 13 MA's), (36, 22429), (41, 22453), (58, 22531), (77, 22633),

Gene: PsychoKiller_26 Start: 21623, Stop: 21964, Start Num: 30
Candidate Starts for PsychoKiller_26:
(Start: 30 @21623 has 50 MA's), (42, 21707), (52, 21758), (66, 21833), (69, 21845), (71, 21869), (76, 21905), (82, 21947),

Gene: Puppers_26 Start: 20940, Stop: 21272, Start Num: 26
Candidate Starts for Puppers_26:
(22, 20934), (Start: 26 @20940 has 2 MA's), (40, 21024), (55, 21099), (59, 21114), (65, 21141), (73, 21183), (80, 21240), (82, 21255),

Gene: Quasar_26 Start: 22232, Stop: 22573, Start Num: 30
Candidate Starts for Quasar_26:

(Start: 30 @22232 has 50 MA's), (42, 22316), (52, 22367), (66, 22442), (69, 22454), (71, 22478), (76, 22514), (82, 22556),

Gene: RADical_27 Start: 21624, Stop: 21965, Start Num: 30
Candidate Starts for RADical_27:
(Start: 30 @21624 has 50 MA's), (42, 21708), (52, 21759), (66, 21834), (69, 21846), (71, 21870), (76, 21906), (82, 21948),

Gene: RSchmailzl_27 Start: 21767, Stop: 22108, Start Num: 30
Candidate Starts for RSchmailzl_27:
(Start: 30 @21767 has 50 MA's), (42, 21851), (52, 21902), (66, 21977), (69, 21989), (71, 22013), (76, 22049), (82, 22091),

Gene: Rabbitrun_33 Start: 27422, Stop: 27727, Start Num: 27
Candidate Starts for Rabbitrun_33:
(9, 27293), (10, 27308), (12, 27323), (13, 27326), (14, 27329), (15, 27341), (Start: 27 @27422 has 15 MA's), (31, 27446), (33, 27458), (35, 27464), (36, 27485), (41, 27509), (57, 27572), (65, 27605),

Gene: RanchParmCat_30 Start: 21691, Stop: 22017, Start Num: 30
Candidate Starts for RanchParmCat_30:
(18, 21658), (Start: 30 @21691 has 50 MA's), (36, 21748), (41, 21772), (46, 21799), (52, 21823), (78, 21973), (82, 22000),

Gene: RedBaron_27 Start: 21667, Stop: 22008, Start Num: 30
Candidate Starts for RedBaron_27:
(Start: 30 @21667 has 50 MA's), (42, 21751), (52, 21802), (66, 21877), (71, 21913), (76, 21949), (82, 21991),

Gene: Sahara_26 Start: 21963, Stop: 22271, Start Num: 27
Candidate Starts for Sahara_26:
(Start: 25 @21960 has 18 MA's), (Start: 27 @21963 has 15 MA's), (36, 22026), (65, 22146), (82, 22251),

Gene: Savage_27 Start: 22288, Stop: 22599, Start Num: 25
Candidate Starts for Savage_27:
(Start: 25 @22288 has 18 MA's), (Start: 27 @22291 has 15 MA's), (36, 22354), (65, 22474), (82, 22579),

Gene: Sephiroth_31 Start: 25857, Stop: 26165, Start Num: 27
Candidate Starts for Sephiroth_31:
(Start: 27 @25857 has 15 MA's), (36, 25920), (38, 25929), (41, 25944), (45, 25965), (47, 25971), (65, 26040),

Gene: SheckWes_27 Start: 21513, Stop: 21836, Start Num: 29
Candidate Starts for SheckWes_27:
(Start: 29 @21513 has 13 MA's), (36, 21573), (41, 21597), (58, 21675), (77, 21777),

Gene: SilverChicken_21 Start: 15770, Stop: 16093, Start Num: 28
Candidate Starts for SilverChicken_21:
(Start: 28 @15770 has 7 MA's), (33, 15803), (34, 15806), (75, 16025), (78, 16049), (81, 16070),

Gene: Sixama_103 Start: 63600, Stop: 63935, Start Num: 21
Candidate Starts for Sixama_103:

(Start: 21 @63600 has 5 MA's), (33, 63645), (44, 63714), (50, 63735), (54, 63756), (74, 63867),

Gene: SketchMex_25 Start: 21276, Stop: 21617, Start Num: 30
Candidate Starts for SketchMex_25:
(Start: 30 @21276 has 50 MA's), (39, 21345), (41, 21357), (66, 21486), (73, 21531), (76, 21558),

Gene: Socotra_27 Start: 21623, Stop: 21964, Start Num: 30
Candidate Starts for Socotra_27:
(Start: 30 @21623 has 50 MA's), (42, 21707), (52, 21758), (66, 21833), (69, 21845), (71, 21869), (76, 21905), (82, 21947),

Gene: SoilAssassin_27 Start: 22281, Stop: 22592, Start Num: 25
Candidate Starts for SoilAssassin_27:
(Start: 25 @22281 has 18 MA's), (Start: 27 @22284 has 15 MA's), (36, 22347), (47, 22398), (65, 22467), (82, 22572),

Gene: Sopespian_26 Start: 21624, Stop: 21965, Start Num: 30
Candidate Starts for Sopespian_26:
(Start: 30 @21624 has 50 MA's), (42, 21708), (52, 21759), (66, 21834), (69, 21846), (71, 21870), (76, 21906), (82, 21948),

Gene: Soul22_21 Start: 15768, Stop: 16091, Start Num: 28
Candidate Starts for Soul22_21:
(Start: 28 @15768 has 7 MA's), (33, 15801), (34, 15804), (75, 16023), (78, 16047), (81, 16068),

Gene: Sproutie_27 Start: 22288, Stop: 22599, Start Num: 25
Candidate Starts for Sproutie_27:
(Start: 25 @22288 has 18 MA's), (Start: 27 @22291 has 15 MA's), (36, 22354), (65, 22474), (82, 22579),

Gene: Starburst_27 Start: 21624, Stop: 21965, Start Num: 30
Candidate Starts for Starburst_27:
(Start: 30 @21624 has 50 MA's), (42, 21708), (52, 21759), (66, 21834), (69, 21846), (71, 21870), (76, 21906), (82, 21948),

Gene: SteamedHams_28 Start: 21281, Stop: 21622, Start Num: 30
Candidate Starts for SteamedHams_28:
(Start: 30 @21281 has 50 MA's), (39, 21350), (41, 21362), (42, 21365), (66, 21491), (76, 21563),

Gene: SummitAcademy_27 Start: 21589, Stop: 21912, Start Num: 29
Candidate Starts for SummitAcademy_27:
(Start: 29 @21589 has 13 MA's), (36, 21649), (41, 21673), (58, 21751), (69, 21790), (77, 21853),

Gene: Survivors_28 Start: 22450, Stop: 22791, Start Num: 30
Candidate Starts for Survivors_28:
(Start: 30 @22450 has 50 MA's), (36, 22507), (39, 22519), (52, 22585), (58, 22606), (64, 22648), (66, 22660), (71, 22696), (72, 22702), (76, 22732),

Gene: SweatNTears_28 Start: 21544, Stop: 21885, Start Num: 30
Candidate Starts for SweatNTears_28:
(3, 21370), (4, 21373), (7, 21400), (Start: 30 @21544 has 50 MA's), (36, 21601), (41, 21625), (66, 21754), (73, 21799), (76, 21826),

Gene: Syleon_31 Start: 25779, Stop: 26087, Start Num: 27
Candidate Starts for Syleon_31:
(Start: 27 @25779 has 15 MA's), (36, 25842), (38, 25851), (41, 25866), (45, 25887), (47, 25893), (65, 25962),

Gene: Tarnish_27 Start: 22904, Stop: 23227, Start Num: 29
Candidate Starts for Tarnish_27:
(Start: 29 @22904 has 13 MA's), (36, 22964), (41, 22988), (58, 23066), (77, 23168),

Gene: Tolls_28 Start: 21275, Stop: 21616, Start Num: 30
Candidate Starts for Tolls_28:
(Start: 30 @21275 has 50 MA's), (39, 21344), (41, 21356), (42, 21359), (66, 21485), (76, 21557),

Gene: Trax_31 Start: 27414, Stop: 27719, Start Num: 27
Candidate Starts for Trax_31:
(20, 27402), (Start: 27 @27414 has 15 MA's), (33, 27450), (36, 27477), (41, 27501), (45, 27522), (49, 27534), (65, 27597),

Gene: Trine_25 Start: 20596, Stop: 20931, Start Num: 25
Candidate Starts for Trine_25:
(Start: 25 @20596 has 18 MA's), (32, 20638), (33, 20641), (43, 20707), (65, 20803), (75, 20866), (76, 20872), (82, 20917),

Gene: Troje_26 Start: 21258, Stop: 21599, Start Num: 30
Candidate Starts for Troje_26:
(Start: 30 @21258 has 50 MA's), (39, 21327), (41, 21339), (66, 21468), (73, 21513), (76, 21540),

Gene: TuertoX_27 Start: 22291, Stop: 22599, Start Num: 27
Candidate Starts for TuertoX_27:
(Start: 25 @22288 has 18 MA's), (Start: 27 @22291 has 15 MA's), (36, 22354), (65, 22474), (82, 22579),

Gene: Typhonomachy_26 Start: 21656, Stop: 21997, Start Num: 30
Candidate Starts for Typhonomachy_26:
(Start: 30 @21656 has 50 MA's), (42, 21740), (52, 21791), (66, 21866), (69, 21878), (71, 21902), (76, 21938), (82, 21980),

Gene: Vine_28 Start: 22510, Stop: 22830, Start Num: 29
Candidate Starts for Vine_28:
(Start: 29 @22510 has 13 MA's), (37, 22573), (41, 22594), (57, 22669), (58, 22672), (69, 22711),

Gene: Volt_59 Start: 32404, Stop: 32760, Start Num: 25
Candidate Starts for Volt_59:
(Start: 25 @32404 has 18 MA's), (35, 32449), (44, 32512), (49, 32530), (53, 32554), (70, 32641), (79, 32725),

Gene: Whiteclaw_27 Start: 22291, Stop: 22599, Start Num: 27
Candidate Starts for Whiteclaw_27:
(Start: 25 @22288 has 18 MA's), (Start: 27 @22291 has 15 MA's), (36, 22354), (65, 22474), (82, 22579),

Gene: Widow_26 Start: 20931, Stop: 21263, Start Num: 26
Candidate Starts for Widow_26:

(22, 20925), (Start: 26 @20931 has 2 MA's), (40, 21015), (55, 21090), (59, 21105), (65, 21132), (73, 21174), (80, 21231), (82, 21246),

Gene: Wolfwood_30 Start: 22594, Stop: 22935, Start Num: 30
Candidate Starts for Wolfwood_30:
(Start: 30 @22594 has 50 MA's), (36, 22651), (39, 22663), (52, 22729), (58, 22750), (64, 22792), (66, 22804), (71, 22840), (76, 22876),

Gene: Yakult_29 Start: 21409, Stop: 21735, Start Num: 30
Candidate Starts for Yakult_29:
(1, 21196), (2, 21232), (5, 21244), (6, 21247), (16, 21334), (17, 21346), (Start: 30 @21409 has 50 MA's), (36, 21466), (41, 21490), (46, 21517), (52, 21541), (78, 21691), (82, 21718),

Gene: Yarn_25 Start: 21298, Stop: 21639, Start Num: 30
Candidate Starts for Yarn_25:
(Start: 30 @21298 has 50 MA's), (39, 21367), (41, 21379), (42, 21382), (66, 21508), (76, 21580),

Gene: Yeet412_27 Start: 22281, Stop: 22592, Start Num: 25
Candidate Starts for Yeet412_27:
(Start: 25 @22281 has 18 MA's), (Start: 27 @22284 has 15 MA's), (36, 22347), (47, 22398), (65, 22467), (82, 22572),

Gene: Yoshi_21 Start: 15769, Stop: 16092, Start Num: 28
Candidate Starts for Yoshi_21:
(Start: 28 @15769 has 7 MA's), (33, 15802), (34, 15805), (75, 16024), (78, 16048), (81, 16069),

Gene: Yucky_27 Start: 22369, Stop: 22689, Start Num: 29
Candidate Starts for Yucky_27:
(Start: 29 @22369 has 13 MA's), (37, 22432), (41, 22453), (57, 22528), (58, 22531), (69, 22570),

Gene: Yummy_27 Start: 21211, Stop: 21552, Start Num: 30
Candidate Starts for Yummy_27:
(Start: 30 @21211 has 50 MA's), (39, 21280), (41, 21292), (42, 21295), (58, 21367), (66, 21421), (69, 21433), (73, 21466), (76, 21493),

Gene: Zapner_22 Start: 16294, Stop: 16617, Start Num: 28
Candidate Starts for Zapner_22:
(Start: 28 @16294 has 7 MA's), (33, 16327), (34, 16330), (75, 16549), (78, 16573), (81, 16594),

Gene: Zareef_28 Start: 22602, Stop: 22943, Start Num: 30
Candidate Starts for Zareef_28:
(Start: 30 @22602 has 50 MA's), (36, 22659), (39, 22671), (52, 22737), (58, 22758), (64, 22800), (66, 22812), (71, 22848), (76, 22884),

Gene: Ziko_60 Start: 32344, Stop: 32700, Start Num: 25
Candidate Starts for Ziko_60:
(Start: 25 @32344 has 18 MA's), (35, 32389), (44, 32452), (49, 32470), (53, 32494), (70, 32581), (79, 32665),