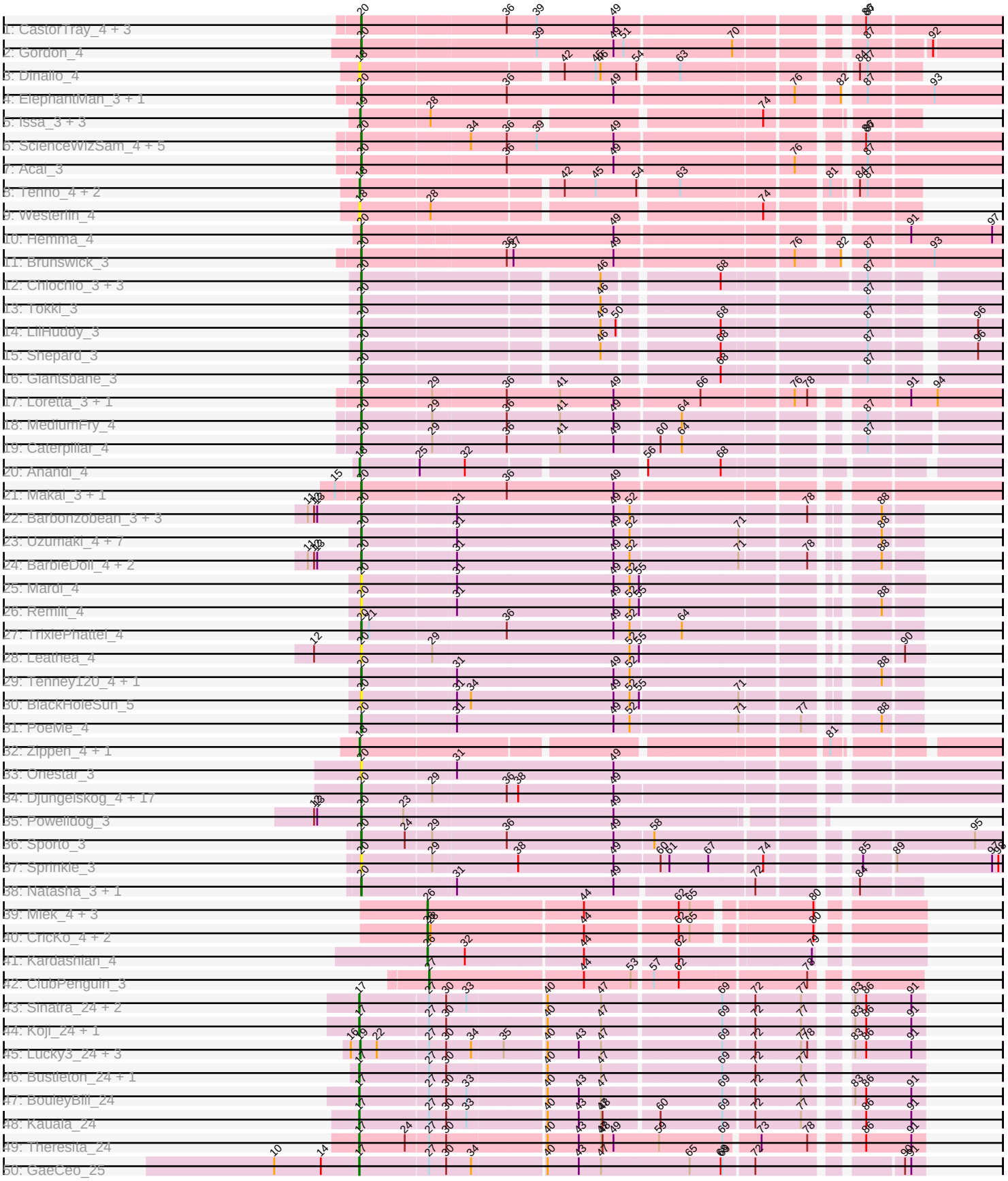
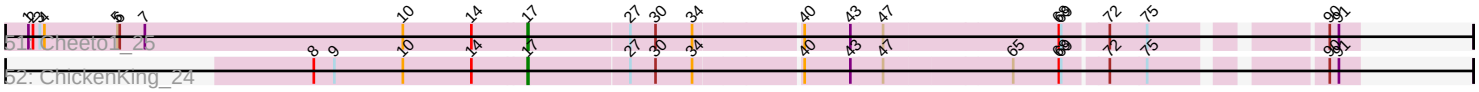
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1: CastorTray_4 + 3
2: Gordon_4
3: Dinallo_4
4: ElephantMan_3 + 1
5: Issa_3 + 3
6: ScienceWizSam_4 + 5
7: Acai_3
8: Tenno_4 + 2
9: Westerlin_4
10: Hemma_4
11: Brunswick_3
12: Chiochio_3 + 3
13: Tokki_3
14: LilFuddy_3
15: Shepard_3
16: Giantsbane_3
17: Loretta_3 + 1
18: MediumFry_4
19: Caterpillar_4
20: Anandi_4
21: Makai_3 + 1
22: Barbonzobean_3 + 3
23: Ozumaki_4 + 7
24: BarbieDoll_4 + 2
25: Mardi_4
26: Remilt_4
27: TrixiePhattel_4
28: Leathea_4
29: Tenney120_4 + 1
30: BlackHoleSun_5
31: PoeMe_4
32: Zippen_4 + 1
33: Onestar_3
34: Djungelskog_4 + 17
35: Powelldog_3
36: Sporto_3
37: Sprinkle_3
38: Natasha_3 + 1
39: Miek_4 + 3
40: CricKo_4 + 2
41: Kardashian_4
42: ClubPenguin_3
43: Sinatra_24 + 2
44: Koji_24 + 1
45: Lucky3_24 + 3
46: Bustleton_24 + 1
47: BouleyBill_24
48: Kauala_24
49: Theresita_24
50: GaeCeo_25

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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 347422 Report

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

Pham number 347422 has 115 members, 18 are drafts.

Phages represented in each track:
• Track 1 : CastorTray_4, Tatanka_3, AreFloNak_3, Nivinsha_3
• Track 2 : Gordon_4
• Track 3 : Dinallo_4
• Track 4 : ElephantMan_3, Niktson_3
• Track 5 : Issa_3, Teacup_4, LucySwiss_3, Nightmare_3
• Track 6 : ScienceWizSam_4, DevitoJr_3, Darby_3, Trustiboi_3, Breylor17_3, Synepsis_3
• Track 7 : Acai_3
• Track 8 : Tenno_4, CapnMurica_4, MiniBagel_4
• Track 9 : Westerlin_4
• Track 10 : Hemma_4
• Track 11 : Brunswick_3
• Track 12 : Chlochlo_3, Tipton_3, Bouchard_3, Phaby_3
• Track 13 : Tokki_3
• Track 14 : LilHuddy_3
• Track 15 : Shepard_3
• Track 16 : Giantsbane_3
• Track 17 : Loretta_3, Ingrid_3
• Track 18 : MediumFry_4
• Track 19 : Caterpillar_4
• Track 20 : Anandi_4
• Track 21 : Makai_3, Truckee_3
• Track 22 : Barbonzobean_3, Lewando_4, Biscute_3, Muglass_3
• Track 23 : Uzumaki_4, Stardrop_4, Altjira_3, Zeina_4, Navi1117_4, Phaila_4, Argan_3, GantcherGoblin_3
• Track 24 : BarbieDoll_4, Renaldo_5, Kinny_4
• Track 25 : Mardi_4
• Track 26 : Remlit_4
• Track 27 : TrixiePhattel_4
• Track 28 : Leathea_4
• Track 29 : Tenney120_4, KevinMinion_3
• Track 30 : BlackHoleSun_5
• Track 31 : PoeMe_4
• Track 32 : Zippen_4, Inked_4
• Track 33 : Onestar_3
• Track 34 : Djungelskog_4, Salk_4, HerbBucket_4, Sloopyjoe_4, Stayer_4, Egad_4, Boog_4, Michelle_4, Shiba_4, Raunak_4, Jeremy4pt0_4, Spain_4, MrAaronian_4,

Linda_4, StarLord_4, ProfFrink_4, DoctorPepper_4, BronxBay_4
• Track 35 : Powelldog_3
• Track 36 : Sporto_3
• Track 37 : Sprinkle_3
• Track 38 : Natasha_3, RustyBoy_3
• Track 39 : Miek_4, Regigigas_4, FromIndy_4, SendItCS_4
• Track 40 : CricKo_4, Thiqqums_4, Rainydai_4
• Track 41 : Kardashian_4
• Track 42 : ClubPenguin_3
• Track 43 : Sinatra_24, Jingles_24, PrincePhergus_24
• Track 44 : Koji_24, RenegadeRaider_25
• Track 45 : Lucky3_24, Guetzie_24, SirVictor_24, Golden_24
• Track 46 : Bustleton_24, Pherbot_24
• Track 47 : BouleyBill_24
• Track 48 : Kauala_24
• Track 49 : Theresita_24
• Track 50 : GaeCeo_25
• Track 51 : Cheeto1_25
• Track 52 : ChickenKing_24

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 64 of the 97 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Acai_3, Altjira_3, AreFloNak_3, Argan_3, BarbieDoll_4, Barbonzobean_3, Biscute_3, BlackHoleSun_5, Boog_4, Bouchard_3, Breylor17_3, BronxBay_4, Brunswick_3, CastorTray_4, Caterpillar_4, Chlochlo_3, Darby_3, DevitoJr_3, Djungelskog_4, DoctorPepper_4, Egad_4, ElephantMan_3, GantcherGoblin_3, Giantsbane_3, Gordon_4, Hemma_4, HerbBucket_4, Ingrid_3, Jeremy4pt0_4, KevinMinion_3, Kinny_4, Leathea_4, Lewando_4, LilHuddy_3, Linda_4, Loretta_3, Makai_3, Mardi_4, MediumFry_4, Michelle_4, MrAaronian_4, Muglass_3, Natasha_3, Navi1117_4, Niktson_3, Nivinsha_3, Onestar_3, Phaby_3, Phaila_4, PoeMe_4, Powelldog_3, ProfFrink_4, Raunak_4, Remlit_4, Renaldo_5, RustyBoy_3, Salk_4, ScienceWizSam_4, Shepard_3, Shiba_4, Sloopyjoe_4, Spain_4, Sporto_3, Sprinkle_3, StarLord_4, Stardrop_4, Stayer_4, Synepsis_3, Tatanka_3, Tenney120_4, Tipton_3, Tokki_3, TrixiePhattel_4, Truckee_3, Trustiboi_3, Uzumaki_4, Zeina_4,

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

Genes that do not have the "Most Annotated" start:
• Anandi_4, BouleyBill_24, Bustleton_24, CapnMurica_4, Cheeto1_25, ChickenKing_24, ClubPenguin_3, CricKo_4, Dinallo_4, FromIndy_4, GaeCeo_25, Golden_24, Guetzie_24, Inked_4, Issa_3, Jingles_24, Kardashian_4, Kauala_24, Koji_24, Lucky3_24, LucySwiss_3, Miek_4, MiniBagel_4, Nightmare_3, Pherbot_24, PrincePhergus_24, Rainydai_4, Regigigas_4, RenegadeRaider_25, SendItCS_4, Sinatra_24, SirVictor_24, Teacup_4, Tenno_4, Theresita_24, Thiqqums_4,

Westerlin_4, Zippen_4,

Summary by start number:

Start 17:
• Found in 13 of 115 (11.3%) of genes in pham
• Manual Annotations of this start: 12 of 97
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BouleyBill_24 (EA4), Bustleton_24 (EA4), Cheeto1_25 (EA9), ChickenKing_24 (EA9), GaeCeo_25 (EA9), Jingles_24 (EA4), Kauala_24 (EA4), Koji_24 (EA4), Pherbot_24 (EA4), PrincePhergus_24 (EA4), RenegadeRaider_25 (EA4), Sinatra_24 (EA4), Theresita_24 (EA7),

Start 18:
• Found in 8 of 115 (7.0%) of genes in pham
• Manual Annotations of this start: 6 of 97
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Anandi_4 (AU4), CapnMurica_4 (AU1), Dinallo_4 (AU1), Inked_4 (AU7), MiniBagel_4 (AU1), Tenno_4 (AU1), Westerlin_4 (AU1), Zippen_4 (AU7),

Start 19:
• Found in 8 of 115 (7.0%) of genes in pham
• Manual Annotations of this start: 8 of 97
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Golden_24 (EA4), Guetzie_24 (EA4), Issa_3 (AU1), Lucky3_24 (EA4), LucySwiss_3 (AU1), Nightmare_3 (AU1), SirVictor_24 (EA4), Teacup_4 (AU1),

Start 20:
• Found in 77 of 115 (67.0%) of genes in pham
• Manual Annotations of this start: 64 of 97
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Acai_3 (AU1), Altjira_3 (AU6), AreFloNak_3 (AU1), Argan_3 (AU6), BarbieDoll_4 (AU6), Barbonzobean_3 (AU6), Biscute_3 (AU6), BlackHoleSun_5 (AU6), Boog_4 (AW), Bouchard_3 (AU2), Breylor17_3 (AU1), BronxBay_4 (AW), Brunswick_3 (AU1), CastorTray_4 (AU1), Caterpillar_4 (AU4), Chlochlo_3 (AU2), Darby_3 (AU1), DevitoJr_3 (AU1), Djungelskog_4 (AW), DoctorPepper_4 (AW), Egad_4 (AW), ElephantMan_3 (AU1), GantcherGoblin_3 (AU6), Giantsbane_3 (AU2), Gordon_4 (AU1), Hemma_4 (AU1), HerbBucket_4 (AW), Ingrid_3 (AU3), Jeremy4pt0_4 (AW), KevinMinion_3 (AU6), Kinny_4 (AU6), Leathea_4 (AU6), Lewando_4 (AU6), LilHuddy_3 (AU2), Linda_4 (AW), Loretta_3 (AU3), Makai_3 (AU5), Mardi_4 (AU6), MediumFry_4 (AU4), Michelle_4 (AW), MrAaronian_4 (AW), Muglass_3 (AU6), Natasha_3 (AW), Navi1117_4 (AU6), Niktson_3 (AU1), Nivinsha_3 (AU1), Onestar_3 (AW), Phaby_3 (AU2), Phaila_4 (AU6), PoeMe_4 (AU6), Powelldog_3 (AW), ProfFrink_4 (AW), Raunak_4 (AW), Remlit_4 (AU6), Renaldo_5 (AU6), RustyBoy_3 (AW), Salk_4 (AW), ScienceWizSam_4 (AU1), Shepard_3 (AU2), Shiba_4 (AW), Sloopyjoe_4 (AW), Spain_4 (AW), Sporto_3 (AW), Sprinkle_3 (AW), StarLord_4 (AW), Stardrop_4 (AU6), Stayer_4 (AW), Synepsis_3 (AU1), Tatanka_3 (AU1), Tenney120_4 (AU6), Tipton_3 (AU2), Tokki_3 (AU2), TrixiePhattel_4 (AU6), Truckee_3 (AU5), Trustiboi_3 (AU1), Uzumaki_4 (AU6), Zeina_4 (AU6),

Start 26:
• Found in 8 of 115 (7.0%) of genes in pham
• Manual Annotations of this start: 6 of 97
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CricKo_4 (BI4), FromIndy_4 (BI4), Kardashian_4 (BI6), Miek_4 (BI4), Rainydai_4 (BI4), Regigigas_4 (BI4), SendItCS_4 (BI4), Thiqqums_4 (BI4),

Start 27:
• Found in 18 of 115 (15.7%) of genes in pham
• Manual Annotations of this start: 1 of 97
• Called 5.6% of time when present
• Phage (with cluster) where this start called: ClubPenguin_3 (BI7),

Summary by clusters:

There are 14 clusters represented in this pham: EA9, AU7, AU1, AU3, AU2, AU5, AU4, AW, AU6, BI6, BI7, BI4, EA4, EA7,

Info for manual annotations of cluster AU1:
•Start number 18 was manually annotated 3 times for cluster AU1.
•Start number 19 was manually annotated 4 times for cluster AU1.
•Start number 20 was manually annotated 14 times for cluster AU1.

Info for manual annotations of cluster AU2:
•Start number 20 was manually annotated 8 times for cluster AU2.

Info for manual annotations of cluster AU3:
•Start number 20 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:
•Start number 18 was manually annotated 1 time for cluster AU4.
•Start number 20 was manually annotated 2 times for cluster AU4.

Info for manual annotations of cluster AU5:
•Start number 20 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU6:
•Start number 20 was manually annotated 16 times for cluster AU6.

Info for manual annotations of cluster AU7:
•Start number 18 was manually annotated 2 times for cluster AU7.

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

Info for manual annotations of cluster BI4:
•Start number 26 was manually annotated 5 times for cluster BI4.

Info for manual annotations of cluster BI6:
•Start number 26 was manually annotated 1 time for cluster BI6.

Info for manual annotations of cluster BI7:

•Start number 27 was manually annotated 1 time for cluster BI7.

Info for manual annotations of cluster EA4:
•Start number 17 was manually annotated 8 times for cluster EA4.
•Start number 19 was manually annotated 4 times for cluster EA4.

Info for manual annotations of cluster EA7:
•Start number 17 was manually annotated 1 time for cluster EA7.

Info for manual annotations of cluster EA9:
•Start number 17 was manually annotated 3 times for cluster EA9.

Gene Information:

Gene: Acai_3 Start: 1549, Stop: 2673, Start Num: 20
Candidate Starts for Acai_3:
(Start: 20 @1549 has 64 MA's), (36, 1807), (49, 2011), (76, 2326), (87, 2422),

Gene: Altjira_3 Start: 1423, Stop: 2403, Start Num: 20
Candidate Starts for Altjira_3:
(Start: 20 @1423 has 64 MA's), (31, 1594), (49, 1894), (52, 1924), (71, 2122), (88, 2332),

Gene: Anandi_4 Start: 1644, Stop: 2735, Start Num: 18
Candidate Starts for Anandi_4:
(Start: 18 @1644 has 6 MA's), (25, 1749), (32, 1836), (56, 2139), (68, 2277),

Gene: AreFloNak_3 Start: 1412, Stop: 2536, Start Num: 20
Candidate Starts for AreFloNak_3:
(Start: 20 @1412 has 64 MA's), (36, 1670), (39, 1727), (49, 1874), (86, 2282), (87, 2285),

Gene: Argan_3 Start: 1237, Stop: 2217, Start Num: 20
Candidate Starts for Argan_3:
(Start: 20 @1237 has 64 MA's), (31, 1408), (49, 1708), (52, 1738), (71, 1936), (88, 2146),

Gene: BarbieDoll_4 Start: 1531, Stop: 2511, Start Num: 20
Candidate Starts for BarbieDoll_4:
(11, 1432), (12, 1444), (13, 1450), (Start: 20 @1531 has 64 MA's), (31, 1702), (49, 2002), (52, 2032), (71, 2230), (78, 2347), (88, 2440),

Gene: Barbonzobean_3 Start: 1227, Stop: 2207, Start Num: 20
Candidate Starts for Barbonzobean_3:
(11, 1128), (12, 1140), (13, 1146), (Start: 20 @1227 has 64 MA's), (31, 1398), (49, 1698), (52, 1728), (78, 2043), (88, 2136),

Gene: Biscute_3 Start: 1227, Stop: 2207, Start Num: 20
Candidate Starts for Biscute_3:
(11, 1128), (12, 1140), (13, 1146), (Start: 20 @1227 has 64 MA's), (31, 1398), (49, 1698), (52, 1728), (78, 2043), (88, 2136),

Gene: BlackHoleSun_5 Start: 1604, Stop: 2584, Start Num: 20
Candidate Starts for BlackHoleSun_5:

(Start: 20 @1604 has 64 MA's), (31, 1775), (34, 1802), (49, 2075), (52, 2105), (55, 2120), (71, 2303),

Gene: Boog_4 Start: 1440, Stop: 2573, Start Num: 20
Candidate Starts for Boog_4:
(Start: 20 @1440 has 64 MA's), (29, 1566), (36, 1701), (38, 1722), (49, 1905),

Gene: Bouchard_3 Start: 1397, Stop: 2491, Start Num: 20
Candidate Starts for Bouchard_3:
(Start: 20 @1397 has 64 MA's), (46, 1823), (68, 2018), (87, 2273),

Gene: BouleyBill_24 Start: 18629, Stop: 19621, Start Num: 17
Candidate Starts for BouleyBill_24:
(Start: 17 @18629 has 12 MA's), (Start: 27 @18758 has 1 MA's), (30, 18791), (33, 18830), (40, 18971), (43, 19031), (47, 19073), (69, 19286), (72, 19337), (77, 19424), (83, 19487), (86, 19508), (91, 19595),

Gene: Breylor17_3 Start: 1537, Stop: 2661, Start Num: 20
Candidate Starts for Breylor17_3:
(Start: 20 @1537 has 64 MA's), (34, 1726), (36, 1795), (39, 1852), (49, 1999), (86, 2407), (87, 2410),

Gene: BronxBay_4 Start: 1439, Stop: 2572, Start Num: 20
Candidate Starts for BronxBay_4:
(Start: 20 @1439 has 64 MA's), (29, 1565), (36, 1700), (38, 1721), (49, 1904),

Gene: Brunswick_3 Start: 1546, Stop: 2670, Start Num: 20
Candidate Starts for Brunswick_3:
(Start: 20 @1546 has 64 MA's), (36, 1804), (37, 1816), (49, 2008), (76, 2323), (82, 2389), (87, 2419), (93, 2539),

Gene: Bustleton_24 Start: 18617, Stop: 19621, Start Num: 17
Candidate Starts for Bustleton_24:
(Start: 17 @18617 has 12 MA's), (Start: 27 @18746 has 1 MA's), (30, 18779), (40, 18959), (47, 19061), (69, 19274), (72, 19337), (77, 19424),

Gene: CapnMurica_4 Start: 2789, Stop: 3742, Start Num: 18
Candidate Starts for CapnMurica_4:
(Start: 18 @2789 has 6 MA's), (42, 3149), (45, 3209), (54, 3281), (63, 3344), (81, 3599), (84, 3632), (87, 3647),

Gene: CastorTray_4 Start: 1391, Stop: 2515, Start Num: 20
Candidate Starts for CastorTray_4:
(Start: 20 @1391 has 64 MA's), (36, 1649), (39, 1706), (49, 1853), (86, 2261), (87, 2264),

Gene: Caterpillar_4 Start: 1620, Stop: 2729, Start Num: 20
Candidate Starts for Caterpillar_4:
(Start: 20 @1620 has 64 MA's), (29, 1746), (36, 1881), (41, 1983), (49, 2085), (60, 2160), (64, 2199), (87, 2493),

Gene: Cheeto1_25 Start: 18442, Stop: 19443, Start Num: 17
Candidate Starts for Cheeto1_25:
(1, 17788), (2, 17794), (3, 17803), (4, 17809), (5, 17905), (6, 17908), (7, 17941), (10, 18280), (14, 18370), (Start: 17 @18442 has 12 MA's), (Start: 27 @18571 has 1 MA's), (30, 18604), (34, 18652), (40, 18784), (43, 18844), (47, 18886), (68, 19111), (69, 19114), (72, 19168), (75, 19216), (90, 19405), (91, 19417),

Gene: ChickenKing_24 Start: 18340, Stop: 19338, Start Num: 17
Candidate Starts for ChickenKing_24:
(8, 18061), (9, 18088), (10, 18178), (14, 18268), (Start: 17 @18340 has 12 MA's), (Start: 27 @18469 has 1 MA's), (30, 18502), (34, 18550), (40, 18682), (43, 18742), (47, 18784), (65, 18946), (68, 19006), (69, 19009), (72, 19063), (75, 19111), (90, 19300), (91, 19312),

Gene: Chlochlo_3 Start: 1398, Stop: 2492, Start Num: 20
Candidate Starts for Chlochlo_3:
(Start: 20 @1398 has 64 MA's), (46, 1824), (68, 2019), (87, 2274),

Gene: ClubPenguin_3 Start: 874, Stop: 1728, Start Num: 27
Candidate Starts for ClubPenguin_3:
(Start: 27 @874 has 1 MA's), (44, 1156), (53, 1246), (57, 1276), (62, 1324), (78, 1555),

Gene: CricKo_4 Start: 1128, Stop: 1970, Start Num: 26
Candidate Starts for CricKo_4:
(Start: 26 @1128 has 6 MA's), (28, 1134), (44, 1413), (62, 1581), (65, 1602), (80, 1806),

Gene: Darby_3 Start: 1394, Stop: 2518, Start Num: 20
Candidate Starts for Darby_3:
(Start: 20 @1394 has 64 MA's), (34, 1583), (36, 1652), (39, 1709), (49, 1856), (86, 2264), (87, 2267),

Gene: DevitoJr_3 Start: 1536, Stop: 2660, Start Num: 20
Candidate Starts for DevitoJr_3:
(Start: 20 @1536 has 64 MA's), (34, 1725), (36, 1794), (39, 1851), (49, 1998), (86, 2406), (87, 2409),

Gene: Dinallo_4 Start: 2789, Stop: 3742, Start Num: 18
Candidate Starts for Dinallo_4:
(Start: 18 @2789 has 6 MA's), (42, 3149), (45, 3209), (46, 3218), (54, 3281), (63, 3344), (84, 3632), (87, 3647),

Gene: Djungelskog_4 Start: 1439, Stop: 2572, Start Num: 20
Candidate Starts for Djungelskog_4:
(Start: 20 @1439 has 64 MA's), (29, 1565), (36, 1700), (38, 1721), (49, 1904),

Gene: DoctorPepper_4 Start: 1439, Stop: 2572, Start Num: 20
Candidate Starts for DoctorPepper_4:
(Start: 20 @1439 has 64 MA's), (29, 1565), (36, 1700), (38, 1721), (49, 1904),

Gene: Egad_4 Start: 1440, Stop: 2573, Start Num: 20
Candidate Starts for Egad_4:
(Start: 20 @1440 has 64 MA's), (29, 1566), (36, 1701), (38, 1722), (49, 1905),

Gene: ElephantMan_3 Start: 1549, Stop: 2673, Start Num: 20
Candidate Starts for ElephantMan_3:
(Start: 20 @1549 has 64 MA's), (36, 1807), (49, 2011), (76, 2326), (82, 2392), (87, 2422), (93, 2542),

Gene: FromIndy_4 Start: 1128, Stop: 1970, Start Num: 26
Candidate Starts for FromIndy_4:
(Start: 26 @1128 has 6 MA's), (44, 1413), (62, 1581), (65, 1602), (80, 1806),

Gene: GaeCeo_25 Start: 18513, Stop: 19511, Start Num: 17

Candidate Starts for GaeCeo_25:
(10, 18351), (14, 18441), (Start: 17 @18513 has 12 MA's), (Start: 27 @18642 has 1 MA's), (30, 18675), (34, 18723), (40, 18855), (43, 18915), (47, 18957), (65, 19119), (68, 19179), (69, 19182), (72, 19236), (90, 19473), (91, 19485),

Gene: GantcherGoblin_3 Start: 1237, Stop: 2217, Start Num: 20
Candidate Starts for GantcherGoblin_3:
(Start: 20 @1237 has 64 MA's), (31, 1408), (49, 1708), (52, 1738), (71, 1936), (88, 2146),

Gene: Giantsbane_3 Start: 1398, Stop: 2492, Start Num: 20
Candidate Starts for Giantsbane_3:
(Start: 20 @1398 has 64 MA's), (68, 2019), (87, 2274),

Gene: Golden_24 Start: 18704, Stop: 19696, Start Num: 19
Candidate Starts for Golden_24:
(16, 18686), (Start: 19 @18704 has 8 MA's), (22, 18734), (Start: 27 @18830 has 1 MA's), (30, 18863), (34, 18911), (35, 18968), (40, 19043), (43, 19103), (47, 19145), (69, 19358), (72, 19412), (77, 19499), (78, 19511), (83, 19562), (86, 19583), (91, 19670),

Gene: Gordon_4 Start: 2678, Stop: 3787, Start Num: 20
Candidate Starts for Gordon_4:
(Start: 20 @2678 has 64 MA's), (39, 2993), (49, 3140), (51, 3158), (70, 3353), (87, 3551), (92, 3659),

Gene: Guetzie_24 Start: 18692, Stop: 19684, Start Num: 19
Candidate Starts for Guetzie_24:
(16, 18674), (Start: 19 @18692 has 8 MA's), (22, 18722), (Start: 27 @18818 has 1 MA's), (30, 18851), (34, 18899), (35, 18956), (40, 19031), (43, 19091), (47, 19133), (69, 19346), (72, 19400), (77, 19487), (78, 19499), (83, 19550), (86, 19571), (91, 19658),

Gene: Hemma_4 Start: 1180, Stop: 2295, Start Num: 20
Candidate Starts for Hemma_4:
(Start: 20 @1180 has 64 MA's), (49, 1639), (91, 2122), (97, 2275),

Gene: HerbBucket_4 Start: 1440, Stop: 2573, Start Num: 20
Candidate Starts for HerbBucket_4:
(Start: 20 @1440 has 64 MA's), (29, 1566), (36, 1701), (38, 1722), (49, 1905),

Gene: Ingrid_3 Start: 1418, Stop: 2536, Start Num: 20
Candidate Starts for Ingrid_3:
(Start: 20 @1418 has 64 MA's), (29, 1544), (36, 1679), (41, 1781), (49, 1883), (66, 2033), (76, 2195), (78, 2219), (91, 2366), (94, 2414),

Gene: Inked_4 Start: 1655, Stop: 2740, Start Num: 18
Candidate Starts for Inked_4:
(Start: 18 @1655 has 6 MA's), (81, 2465),

Gene: Issa_3 Start: 1538, Stop: 2491, Start Num: 19
Candidate Starts for Issa_3:
(Start: 19 @1538 has 8 MA's), (28, 1664), (74, 2243),

Gene: Jeremy4pt0_4 Start: 1439, Stop: 2572, Start Num: 20
Candidate Starts for Jeremy4pt0_4:
(Start: 20 @1439 has 64 MA's), (29, 1565), (36, 1700), (38, 1721), (49, 1904),

Gene: Jingles_24 Start: 18630, Stop: 19625, Start Num: 17
Candidate Starts for Jingles_24:
(Start: 17 @18630 has 12 MA's), (Start: 27 @18759 has 1 MA's), (30, 18792), (33, 18831), (40, 18972), (47, 19074), (69, 19287), (72, 19341), (77, 19428), (83, 19491), (86, 19512), (91, 19599),

Gene: Kardashian_4 Start: 1143, Stop: 2003, Start Num: 26
Candidate Starts for Kardashian_4:
(Start: 26 @1143 has 6 MA's), (32, 1212), (44, 1428), (62, 1596), (79, 1836),

Gene: Kauala_24 Start: 18628, Stop: 19623, Start Num: 17
Candidate Starts for Kauala_24:
(Start: 17 @18628 has 12 MA's), (Start: 27 @18757 has 1 MA's), (30, 18790), (33, 18829), (40, 18970), (43, 19030), (47, 19072), (48, 19075), (60, 19168), (69, 19285), (72, 19339), (77, 19426), (86, 19510), (91, 19597),

Gene: KevinMinion_3 Start: 1393, Stop: 2373, Start Num: 20
Candidate Starts for KevinMinion_3:
(Start: 20 @1393 has 64 MA's), (31, 1564), (49, 1864), (52, 1894), (88, 2302),

Gene: Kinny_4 Start: 1531, Stop: 2511, Start Num: 20
Candidate Starts for Kinny_4:
(11, 1432), (12, 1444), (13, 1450), (Start: 20 @1531 has 64 MA's), (31, 1702), (49, 2002), (52, 2032), (71, 2230), (78, 2347), (88, 2440),

Gene: Koji_24 Start: 18752, Stop: 19747, Start Num: 17
Candidate Starts for Koji_24:
(Start: 17 @18752 has 12 MA's), (Start: 27 @18881 has 1 MA's), (30, 18914), (40, 19094), (47, 19196), (69, 19409), (72, 19463), (77, 19550), (83, 19613), (86, 19634), (91, 19721),

Gene: Leathea_4 Start: 1424, Stop: 2404, Start Num: 20
Candidate Starts for Leathea_4:
(12, 1337), (Start: 20 @1424 has 64 MA's), (29, 1550), (52, 1922), (55, 1937), (90, 2366),

Gene: Lewando_4 Start: 1530, Stop: 2510, Start Num: 20
Candidate Starts for Lewando_4:
(11, 1431), (12, 1443), (13, 1449), (Start: 20 @1530 has 64 MA's), (31, 1701), (49, 2001), (52, 2031), (78, 2346), (88, 2439),

Gene: LilHuddy_3 Start: 1398, Stop: 2501, Start Num: 20
Candidate Starts for LilHuddy_3:
(Start: 20 @1398 has 64 MA's), (46, 1824), (50, 1851), (68, 2019), (87, 2283), (96, 2454),

Gene: Linda_4 Start: 1439, Stop: 2572, Start Num: 20
Candidate Starts for Linda_4:
(Start: 20 @1439 has 64 MA's), (29, 1565), (36, 1700), (38, 1721), (49, 1904),

Gene: Loretta_3 Start: 1418, Stop: 2536, Start Num: 20
Candidate Starts for Loretta_3:
(Start: 20 @1418 has 64 MA's), (29, 1544), (36, 1679), (41, 1781), (49, 1883), (66, 2033), (76, 2195), (78, 2219), (91, 2366), (94, 2414),

Gene: Lucky3_24 Start: 18704, Stop: 19696, Start Num: 19

Candidate Starts for Lucky3_24:
(16, 18686), (Start: 19 @18704 has 8 MA's), (22, 18734), (Start: 27 @18830 has 1 MA's), (30, 18863), (34, 18911), (35, 18968), (40, 19043), (43, 19103), (47, 19145), (69, 19358), (72, 19412), (77, 19499), (78, 19511), (83, 19562), (86, 19583), (91, 19670),

Gene: LucySwiss_3 Start: 1557, Stop: 2510, Start Num: 19
Candidate Starts for LucySwiss_3:
(Start: 19 @1557 has 8 MA's), (28, 1683), (74, 2262),

Gene: Makai_3 Start: 1476, Stop: 2600, Start Num: 20
Candidate Starts for Makai_3:
(15, 1437), (Start: 20 @1476 has 64 MA's), (36, 1734), (49, 1938),

Gene: Mardi_4 Start: 1542, Stop: 2525, Start Num: 20
Candidate Starts for Mardi_4:
(Start: 20 @1542 has 64 MA's), (31, 1713), (49, 2013), (52, 2043), (55, 2058),

Gene: MediumFry_4 Start: 1649, Stop: 2758, Start Num: 20
Candidate Starts for MediumFry_4:
(Start: 20 @1649 has 64 MA's), (29, 1775), (36, 1910), (41, 2012), (49, 2114), (64, 2228), (87, 2522),

Gene: Michelle_4 Start: 1439, Stop: 2572, Start Num: 20
Candidate Starts for Michelle_4:
(Start: 20 @1439 has 64 MA's), (29, 1565), (36, 1700), (38, 1721), (49, 1904),

Gene: Miek_4 Start: 1128, Stop: 1970, Start Num: 26
Candidate Starts for Miek_4:
(Start: 26 @1128 has 6 MA's), (44, 1413), (62, 1581), (65, 1602), (80, 1806),

Gene: MiniBagel_4 Start: 2789, Stop: 3742, Start Num: 18
Candidate Starts for MiniBagel_4:
(Start: 18 @2789 has 6 MA's), (42, 3149), (45, 3209), (54, 3281), (63, 3344), (81, 3599), (84, 3632), (87, 3647),

Gene: MrAaronian_4 Start: 1439, Stop: 2572, Start Num: 20
Candidate Starts for MrAaronian_4:
(Start: 20 @1439 has 64 MA's), (29, 1565), (36, 1700), (38, 1721), (49, 1904),

Gene: Muglass_3 Start: 1227, Stop: 2207, Start Num: 20
Candidate Starts for Muglass_3:
(11, 1128), (12, 1140), (13, 1146), (Start: 20 @1227 has 64 MA's), (31, 1398), (49, 1698), (52, 1728), (78, 2043), (88, 2136),

Gene: Natasha_3 Start: 1414, Stop: 2385, Start Num: 20
Candidate Starts for Natasha_3:
(Start: 20 @1414 has 64 MA's), (31, 1585), (49, 1885), (72, 2128), (84, 2275),

Gene: Navi1117_4 Start: 1632, Stop: 2612, Start Num: 20
Candidate Starts for Navi1117_4:
(Start: 20 @1632 has 64 MA's), (31, 1803), (49, 2103), (52, 2133), (71, 2331), (88, 2541),

Gene: Nightmare_3 Start: 1557, Stop: 2510, Start Num: 19
Candidate Starts for Nightmare_3:

(Start: 19 @1557 has 8 MA's), (28, 1683), (74, 2262),

Gene: Niktson_3 Start: 1549, Stop: 2673, Start Num: 20
Candidate Starts for Niktson_3:
(Start: 20 @1549 has 64 MA's), (36, 1807), (49, 2011), (76, 2326), (82, 2392), (87, 2422), (93, 2542),

Gene: Nivinsha_3 Start: 1412, Stop: 2536, Start Num: 20
Candidate Starts for Nivinsha_3:
(Start: 20 @1412 has 64 MA's), (36, 1670), (39, 1727), (49, 1874), (86, 2282), (87, 2285),

Gene: Onestar_3 Start: 1451, Stop: 2590, Start Num: 20
Candidate Starts for Onestar_3:
(Start: 20 @1451 has 64 MA's), (31, 1622), (49, 1922),

Gene: Phaby_3 Start: 1397, Stop: 2491, Start Num: 20
Candidate Starts for Phaby_3:
(Start: 20 @1397 has 64 MA's), (46, 1823), (68, 2018), (87, 2273),

Gene: Phaila_4 Start: 1506, Stop: 2486, Start Num: 20
Candidate Starts for Phaila_4:
(Start: 20 @1506 has 64 MA's), (31, 1677), (49, 1977), (52, 2007), (71, 2205), (88, 2415),

Gene: Pherbot_24 Start: 18616, Stop: 19620, Start Num: 17
Candidate Starts for Pherbot_24:
(Start: 17 @18616 has 12 MA's), (Start: 27 @18745 has 1 MA's), (30, 18778), (40, 18958), (47, 19060), (69, 19273), (72, 19336), (77, 19423),

Gene: PoeMe_4 Start: 1540, Stop: 2520, Start Num: 20
Candidate Starts for PoeMe_4:
(Start: 20 @1540 has 64 MA's), (31, 1711), (49, 2011), (52, 2041), (71, 2239), (77, 2344), (88, 2449),

Gene: Powelldog_3 Start: 1471, Stop: 2301, Start Num: 20
Candidate Starts for Powelldog_3:
(12, 1384), (13, 1390), (Start: 20 @1471 has 64 MA's), (23, 1552), (49, 1942),

Gene: PrincePhergus_24 Start: 18622, Stop: 19617, Start Num: 17
Candidate Starts for PrincePhergus_24:
(Start: 17 @18622 has 12 MA's), (Start: 27 @18751 has 1 MA's), (30, 18784), (33, 18823), (40, 18964), (47, 19066), (69, 19279), (72, 19333), (77, 19420), (83, 19483), (86, 19504), (91, 19591),

Gene: ProfFrink_4 Start: 1439, Stop: 2572, Start Num: 20
Candidate Starts for ProfFrink_4:
(Start: 20 @1439 has 64 MA's), (29, 1565), (36, 1700), (38, 1721), (49, 1904),

Gene: Rainydai_4 Start: 1128, Stop: 1970, Start Num: 26
Candidate Starts for Rainydai_4:
(Start: 26 @1128 has 6 MA's), (28, 1134), (44, 1413), (62, 1581), (65, 1602), (80, 1806),

Gene: Raunak_4 Start: 1439, Stop: 2572, Start Num: 20
Candidate Starts for Raunak_4:
(Start: 20 @1439 has 64 MA's), (29, 1565), (36, 1700), (38, 1721), (49, 1904),

Gene: Regigigas_4 Start: 1128, Stop: 1970, Start Num: 26

Candidate Starts for Regigigas_4:
(Start: 26 @1128 has 6 MA's), (44, 1413), (62, 1581), (65, 1602), (80, 1806),

Gene: Remlit_4 Start: 1520, Stop: 2500, Start Num: 20
Candidate Starts for Remlit_4:
(Start: 20 @1520 has 64 MA's), (31, 1691), (49, 1991), (52, 2021), (55, 2036), (88, 2429),

Gene: Renaldo_5 Start: 1531, Stop: 2511, Start Num: 20
Candidate Starts for Renaldo_5:
(11, 1432), (12, 1444), (13, 1450), (Start: 20 @1531 has 64 MA's), (31, 1702), (49, 2002), (52, 2032), (71, 2230), (78, 2347), (88, 2440),

Gene: RenegadeRaider_25 Start: 18621, Stop: 19613, Start Num: 17
Candidate Starts for RenegadeRaider_25:
(Start: 17 @18621 has 12 MA's), (Start: 27 @18750 has 1 MA's), (30, 18783), (40, 18963), (47, 19065), (69, 19278), (72, 19329), (77, 19416), (83, 19479), (86, 19500), (91, 19587),

Gene: RustyBoy_3 Start: 1414, Stop: 2385, Start Num: 20
Candidate Starts for RustyBoy_3:
(Start: 20 @1414 has 64 MA's), (31, 1585), (49, 1885), (72, 2128), (84, 2275),

Gene: Salk_4 Start: 1439, Stop: 2572, Start Num: 20
Candidate Starts for Salk_4:
(Start: 20 @1439 has 64 MA's), (29, 1565), (36, 1700), (38, 1721), (49, 1904),

Gene: ScienceWizSam_4 Start: 1367, Stop: 2491, Start Num: 20
Candidate Starts for ScienceWizSam_4:
(Start: 20 @1367 has 64 MA's), (34, 1556), (36, 1625), (39, 1682), (49, 1829), (86, 2237), (87, 2240),

Gene: SendItCS_4 Start: 1128, Stop: 1970, Start Num: 26
Candidate Starts for SendItCS_4:
(Start: 26 @1128 has 6 MA's), (44, 1413), (62, 1581), (65, 1602), (80, 1806),

Gene: Shepard_3 Start: 1398, Stop: 2501, Start Num: 20
Candidate Starts for Shepard_3:
(Start: 20 @1398 has 64 MA's), (46, 1824), (68, 2019), (87, 2283), (96, 2454),

Gene: Shiba_4 Start: 1439, Stop: 2572, Start Num: 20
Candidate Starts for Shiba_4:
(Start: 20 @1439 has 64 MA's), (29, 1565), (36, 1700), (38, 1721), (49, 1904),

Gene: Sinatra_24 Start: 18619, Stop: 19614, Start Num: 17
Candidate Starts for Sinatra_24:
(Start: 17 @18619 has 12 MA's), (Start: 27 @18748 has 1 MA's), (30, 18781), (33, 18820), (40, 18961), (47, 19063), (69, 19276), (72, 19330), (77, 19417), (83, 19480), (86, 19501), (91, 19588),

Gene: SirVictor_24 Start: 18692, Stop: 19684, Start Num: 19
Candidate Starts for SirVictor_24:
(16, 18674), (Start: 19 @18692 has 8 MA's), (22, 18722), (Start: 27 @18818 has 1 MA's), (30, 18851), (34, 18899), (35, 18956), (40, 19031), (43, 19091), (47, 19133), (69, 19346), (72, 19400), (77, 19487), (78, 19499), (83, 19550), (86, 19571), (91, 19658),

Gene: Sloopyjoe_4 Start: 1440, Stop: 2573, Start Num: 20

Candidate Starts for Sloopyjoe_4:
(Start: 20 @1440 has 64 MA's), (29, 1566), (36, 1701), (38, 1722), (49, 1905),

Gene: Spain_4 Start: 1439, Stop: 2572, Start Num: 20
Candidate Starts for Spain_4:
(Start: 20 @1439 has 64 MA's), (29, 1565), (36, 1700), (38, 1721), (49, 1904),

Gene: Sporto_3 Start: 1392, Stop: 2516, Start Num: 20
Candidate Starts for Sporto_3:
(Start: 20 @1392 has 64 MA's), (24, 1476), (29, 1518), (36, 1653), (49, 1857), (58, 1923), (95, 2463),

Gene: Sprinkle_3 Start: 1419, Stop: 2543, Start Num: 20
Candidate Starts for Sprinkle_3:
(Start: 20 @1419 has 64 MA's), (29, 1545), (38, 1701), (49, 1884), (60, 1962), (61, 1977), (67, 2052), (74, 2148), (85, 2286), (89, 2343), (97, 2523), (98, 2535),

Gene: StarLord_4 Start: 1440, Stop: 2573, Start Num: 20
Candidate Starts for StarLord_4:
(Start: 20 @1440 has 64 MA's), (29, 1566), (36, 1701), (38, 1722), (49, 1905),

Gene: Stardrop_4 Start: 1540, Stop: 2520, Start Num: 20
Candidate Starts for Stardrop_4:
(Start: 20 @1540 has 64 MA's), (31, 1711), (49, 2011), (52, 2041), (71, 2239), (88, 2449),

Gene: Stayer_4 Start: 1439, Stop: 2572, Start Num: 20
Candidate Starts for Stayer_4:
(Start: 20 @1439 has 64 MA's), (29, 1565), (36, 1700), (38, 1721), (49, 1904),

Gene: Synepsis_3 Start: 1535, Stop: 2659, Start Num: 20
Candidate Starts for Synepsis_3:
(Start: 20 @1535 has 64 MA's), (34, 1724), (36, 1793), (39, 1850), (49, 1997), (86, 2405), (87, 2408),

Gene: Tatanka_3 Start: 1475, Stop: 2599, Start Num: 20
Candidate Starts for Tatanka_3:
(Start: 20 @1475 has 64 MA's), (36, 1733), (39, 1790), (49, 1937), (86, 2345), (87, 2348),

Gene: Teacup_4 Start: 1538, Stop: 2491, Start Num: 19
Candidate Starts for Teacup_4:
(Start: 19 @1538 has 8 MA's), (28, 1664), (74, 2243),

Gene: Tenney120_4 Start: 1520, Stop: 2500, Start Num: 20
Candidate Starts for Tenney120_4:
(Start: 20 @1520 has 64 MA's), (31, 1691), (49, 1991), (52, 2021), (88, 2429),

Gene: Tenno_4 Start: 2789, Stop: 3742, Start Num: 18
Candidate Starts for Tenno_4:
(Start: 18 @2789 has 6 MA's), (42, 3149), (45, 3209), (54, 3281), (63, 3344), (81, 3599), (84, 3632), (87, 3647),

Gene: Theresita_24 Start: 18223, Stop: 19221, Start Num: 17
Candidate Starts for Theresita_24:
(Start: 17 @18223 has 12 MA's), (24, 18310), (Start: 27 @18352 has 1 MA's), (30, 18385), (40, 18565), (43, 18625), (47, 18667), (48, 18670), (49, 18691), (59, 18769), (69, 18889), (73, 18949), (78, 19036),

(86, 19108), (91, 19195),

Gene: Thiqqums_4 Start: 1128, Stop: 1970, Start Num: 26
Candidate Starts for Thiqqums_4:
(Start: 26 @1128 has 6 MA's), (28, 1134), (44, 1413), (62, 1581), (65, 1602), (80, 1806),

Gene: Tipton_3 Start: 1398, Stop: 2492, Start Num: 20
Candidate Starts for Tipton_3:
(Start: 20 @1398 has 64 MA's), (46, 1824), (68, 2019), (87, 2274),

Gene: Tokki_3 Start: 1398, Stop: 2501, Start Num: 20
Candidate Starts for Tokki_3:
(Start: 20 @1398 has 64 MA's), (46, 1824), (87, 2283),

Gene: TrixiePhattel_4 Start: 1473, Stop: 2447, Start Num: 20
Candidate Starts for TrixiePhattel_4:
(Start: 20 @1473 has 64 MA's), (21, 1488), (36, 1740), (49, 1944), (52, 1974), (64, 2064),

Gene: Truckee_3 Start: 1423, Stop: 2547, Start Num: 20
Candidate Starts for Truckee_3:
(15, 1384), (Start: 20 @1423 has 64 MA's), (36, 1681), (49, 1885),

Gene: Trustiboi_3 Start: 1556, Stop: 2680, Start Num: 20
Candidate Starts for Trustiboi_3:
(Start: 20 @1556 has 64 MA's), (34, 1745), (36, 1814), (39, 1871), (49, 2018), (86, 2426), (87, 2429),

Gene: Uzumaki_4 Start: 1520, Stop: 2500, Start Num: 20
Candidate Starts for Uzumaki_4:
(Start: 20 @1520 has 64 MA's), (31, 1691), (49, 1991), (52, 2021), (71, 2219), (88, 2429),

Gene: Westerlin_4 Start: 2789, Stop: 3745, Start Num: 18
Candidate Starts for Westerlin_4:
(Start: 18 @2789 has 6 MA's), (28, 2918), (74, 3497),

Gene: Zeina_4 Start: 1530, Stop: 2510, Start Num: 20
Candidate Starts for Zeina_4:
(Start: 20 @1530 has 64 MA's), (31, 1701), (49, 2001), (52, 2031), (71, 2229), (88, 2439),

Gene: Zippen_4 Start: 1656, Stop: 2741, Start Num: 18
Candidate Starts for Zippen_4:
(Start: 18 @1656 has 6 MA's), (81, 2466),