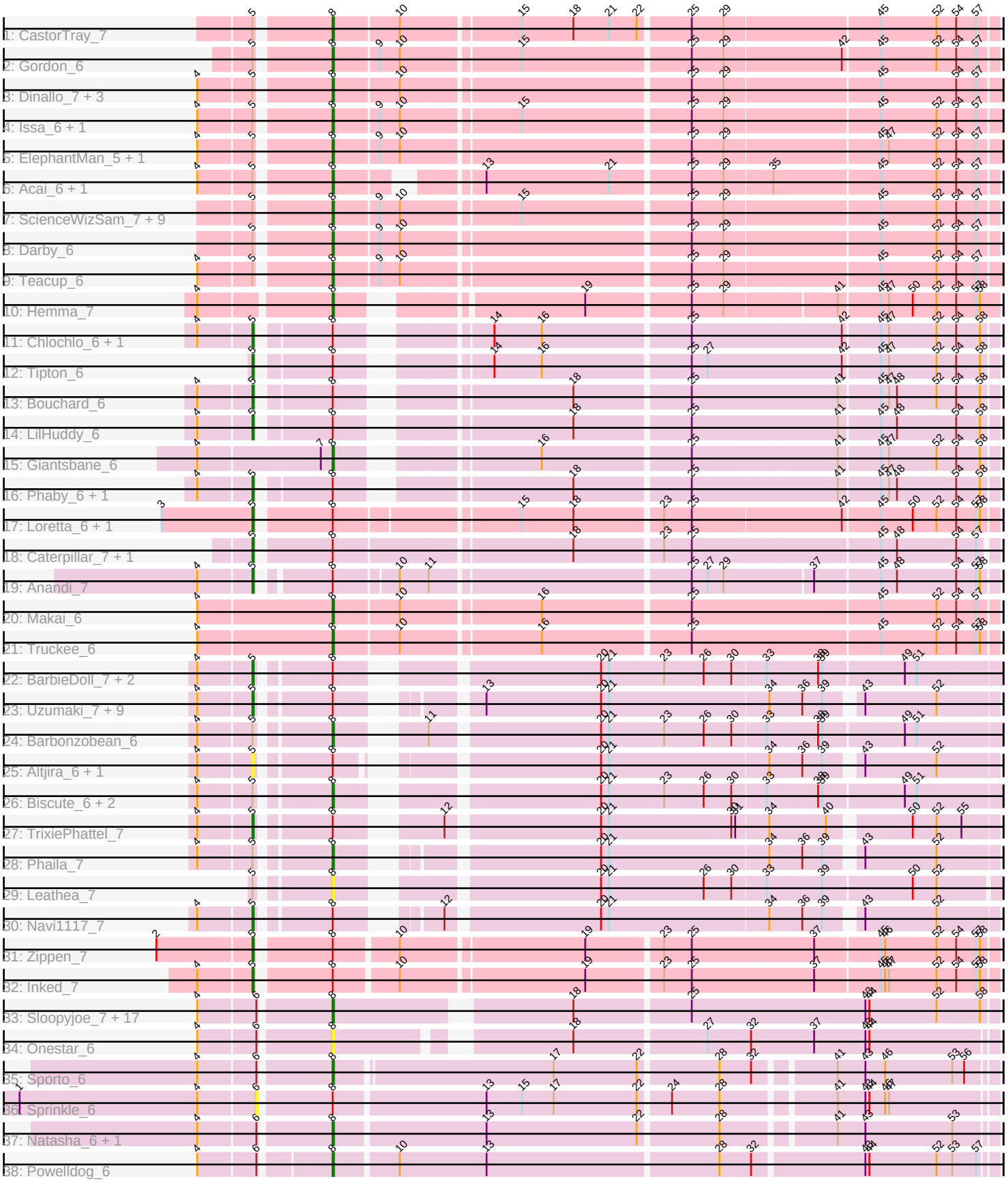
Pham 342025


1: CastorTray_7
2: Gordon_6
3: Dinallo_7 + 3
4: Issa_6 + 1
5: ElephantMan_5 + 1
6: Acai_6 + 1
7: ScienceWizSam_7 + 9
8: Darby_6
9: Teacup_6
10: Hemma_7
11: Chlochlo_6 + 1
12: Tipton_6
13: Bouchard_6
14: LilHuddy_6
15: Giantsbane_6
16: Phaby_6 + 1
17: Loretta_6 + 1
18: Caterpillar_7 + 1
19: Anandi_7
20: Makai_6
21: Truckee_6
22: BarbieDoll_7 + 2
23: Uzumaki_7 + 9
24: Barbonzobean_6
25: Altjira_6 + 1
26: Biscute_6 + 2
27: TrixiePhattel_7
28: Phaila_7
29: Leathea_7
30: Navi1117_7
31: Zippen_7
32: Inked_7
33: Sloopyjoe_7 + 17
34: Onestar_6
35: Sporto_6
36: Sprinkle_6
37: Natasha_6 + 1
38: Powelldog_6

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 342025 Report

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

Pham number 342025 has 89 members, 15 are drafts.

Phages represented in each track:
• Track 1 : CastorTray_7
• Track 2 : Gordon_6
• Track 3 : Dinallo_7, Tenno_7, CapnMurica_6, MiniBagel_6
• Track 4 : Issa_6, LucySwiss_6
• Track 5 : ElephantMan_5, Niktson_5
• Track 6 : Acai_6, Brunswick_6
• Track 7 : ScienceWizSam_7, Tatanka_5, DevitoJr_6, AreFloNak_6, Westerlin_6, Trustiboi_6, Nightmare_6, Nivinsha_6, Breylor17_6, Synepsis_5
• Track 8 : Darby_6
• Track 9 : Teacup_6
• Track 10 : Hemma_7
• Track 11 : Chlochlo_6, Tokki_6
• Track 12 : Tipton_6
• Track 13 : Bouchard_6
• Track 14 : LilHuddy_6
• Track 15 : Giantsbane_6
• Track 16 : Phaby_6, Shepard_6
• Track 17 : Loretta_6, Ingrid_6
• Track 18 : Caterpillar_7, MediumFry_7
• Track 19 : Anandi_7
• Track 20 : Makai_6
• Track 21 : Truckee_6
• Track 22 : BarbieDoll_7, Lewando_7, Renaldo_8
• Track 23 : Uzumaki_7, Stardrop_7, Mardi_8, Zeina_7, Tenney120_7, BlackHoleSun_8, KevinMinion_6, Argan_6, GantcherGoblin_6, PoeMe_7
• Track 24 : Barbonzobean_6
• Track 25 : Altjira_6, Remlit_8
• Track 26 : Biscute_6, Muglass_6, Kinny_7
• Track 27 : TrixiePhattel_7
• Track 28 : Phaila_7
• Track 29 : Leathea_7
• Track 30 : Navi1117_7
• Track 31 : Zippen_7
• Track 32 : Inked_7
• Track 33 : Sloopyjoe_7, MrAaronian_7, Djungelskog_7, Salk_7, HerbBucket_6, ProfFrink_7, Stayer_7, Egad_7, Boog_7, StarLord_7, Michelle_7, Shiba_7, Raunak_7, Jeremy4pt0_7, Spain_6, Linda_7, DoctorPepper_7, BronxBay_7

• Track 34 : Onestar_6
• Track 35 : Sporto_6
• Track 36 : Sprinkle_6
• Track 37 : Natasha_6, RustyBoy_6
• Track 38 : Powelldog_6

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

The start number called the most often in the published annotations is 8, it was called in 49 of the 74 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Acai_6, AreFloNak_6, Barbonzobean_6, Biscute_6, Boog_7, Breylor17_6, BronxBay_7, Brunswick_6, CapnMurica_6, CastorTray_7, Darby_6, DevitoJr_6, Dinallo_7, Djungelskog_7, DoctorPepper_7, Egad_7, ElephantMan_5, Giantsbane_6, Gordon_6, Hemma_7, HerbBucket_6, Issa_6, Jeremy4pt0_7, Kinny_7, Leathea_7, Linda_7, LucySwiss_6, Makai_6, Michelle_7, MiniBagel_6, MrAaronian_7, Muglass_6, Natasha_6, Nightmare_6, Niktson_5, Nivinsha_6, Onestar_6, Phaila_7, Powelldog_6, ProfFrink_7, Raunak_7, RustyBoy_6, Salk_7, ScienceWizSam_7, Shiba_7, Sloopyjoe_7, Spain_6, Sporto_6, StarLord_7, Stayer_7, Synepsis_5, Tatanka_5, Teacup_6, Tenno_7, Truckee_6, Trustiboi_6, Westerlin_6,

Genes that have the "Most Annotated" start but do not call it:
• Altjira_6, Anandi_7, Argan_6, BarbieDoll_7, BlackHoleSun_8, Bouchard_6, Caterpillar_7, Chlochlo_6, GantcherGoblin_6, Ingrid_6, Inked_7, KevinMinion_6, Lewando_7, LilHuddy_6, Loretta_6, Mardi_8, MediumFry_7, Navi1117_7, Phaby_6, PoeMe_7, Remlit_8, Renaldo_8, Shepard_6, Sprinkle_6, Stardrop_7, Tenney120_7, Tipton_6, Tokki_6, TrixiePhattel_7, Uzumaki_7, Zeina_7, Zippen_7,

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

Summary by start number:

Start 5:
• Found in 61 of 89 (68.5%) of genes in pham
• Manual Annotations of this start: 25 of 74
• Called 50.8% of time when present
• Phage (with cluster) where this start called: Altjira_6 (AU6), Anandi_7 (AU4), Argan_6 (AU6), BarbieDoll_7 (AU6), BlackHoleSun_8 (AU6), Bouchard_6 (AU2), Caterpillar_7 (AU4), Chlochlo_6 (AU2), GantcherGoblin_6 (AU6), Ingrid_6 (AU3), Inked_7 (AU7), KevinMinion_6 (AU6), Lewando_7 (AU6), LilHuddy_6 (AU2), Loretta_6 (AU3), Mardi_8 (AU6), MediumFry_7 (AU4), Navi1117_7 (AU6), Phaby_6 (AU2), PoeMe_7 (AU6), Remlit_8 (AU6), Renaldo_8 (AU6), Shepard_6 (AU2), Stardrop_7 (AU6), Tenney120_7 (AU6), Tipton_6 (AU2), Tokki_6 (AU2), TrixiePhattel_7 (AU6), Uzumaki_7 (AU6), Zeina_7 (AU6), Zippen_7 (AU7),

Start 6:
• Found in 24 of 89 (27.0%) of genes in pham
• No Manual Annotations of this start.

• Called 4.2% of time when present
• Phage (with cluster) where this start called: Sprinkle_6 (AW),

Start 8:
• Found in 89 of 89 (100.0%) of genes in pham
• Manual Annotations of this start: 49 of 74
• Called 64.0% of time when present
• Phage (with cluster) where this start called: Acai_6 (AU1), AreFloNak_6 (AU1), Barbonzobean_6 (AU6), Biscute_6 (AU6), Boog_7 (AW), Breylor17_6 (AU1), BronxBay_7 (AW), Brunswick_6 (AU1), CapnMurica_6 (AU1), CastorTray_7 (AU1), Darby_6 (AU1), DevitoJr_6 (AU1), Dinallo_7 (AU1), Djungelskog_7 (AW), DoctorPepper_7 (AW), Egad_7 (AW), ElephantMan_5 (AU1), Giantsbane_6 (AU2), Gordon_6 (AU1), Hemma_7 (AU1), HerbBucket_6 (AW), Issa_6 (AU1), Jeremy4pt0_7 (AW), Kinny_7 (AU6), Leathea_7 (AU6), Linda_7 (AW), LucySwiss_6 (AU1), Makai_6 (AU5), Michelle_7 (AW), MiniBagel_6 (AU1), MrAaronian_7 (AW), Muglass_6 (AU6), Natasha_6 (AW), Nightmare_6 (AU1), Niktson_5 (AU1), Nivinsha_6 (AU1), Onestar_6 (AW), Phaila_7 (AU6), Powelldog_6 (AW), ProfFrink_7 (AW), Raunak_7 (AW), RustyBoy_6 (AW), Salk_7 (AW), ScienceWizSam_7 (AU1), Shiba_7 (AW), Sloopyjoe_7 (AW), Spain_6 (AW), Sporto_6 (AW), StarLord_7 (AW), Stayer_7 (AW), Synepsis_5 (AU1), Tatanka_5 (AU1), Teacup_6 (AU1), Tenno_7 (AU1), Truckee_6 (AU5), Trustiboi_6 (AU1), Westerlin_6 (AU1),

Summary by clusters:

There are 8 clusters represented in this pham: AW, AU1, AU3, AU2, AU5, AU4, AU7, AU6,

Info for manual annotations of cluster AU1:
•Start number 8 was manually annotated 21 times for cluster AU1.

Info for manual annotations of cluster AU2:
•Start number 5 was manually annotated 7 times for cluster AU2.
•Start number 8 was manually annotated 1 time for cluster AU2.

Info for manual annotations of cluster AU3:
•Start number 5 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:
•Start number 5 was manually annotated 3 times for cluster AU4.

Info for manual annotations of cluster AU5:
•Start number 8 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU6:
•Start number 5 was manually annotated 11 times for cluster AU6.
•Start number 8 was manually annotated 5 times for cluster AU6.

Info for manual annotations of cluster AU7:
•Start number 5 was manually annotated 2 times for cluster AU7.

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

Gene Information:

Gene: Acai_6 Start: 3232, Stop: 3690, Start Num: 8
Candidate Starts for Acai_6:
(4, 3142), (Start: 5 @3181 has 25 MA's), (Start: 8 @3232 has 49 MA's), (13, 3316), (21, 3409), (25, 3466), (29, 3490), (35, 3526), (45, 3604), (52, 3646), (54, 3661), (57, 3676),

Gene: Altjira_6 Start: 2905, Stop: 3396, Start Num: 5
Candidate Starts for Altjira_6:
(4, 2866), (Start: 5 @2905 has 25 MA's), (Start: 8 @2953 has 49 MA's), (20, 3112), (21, 3118), (34, 3238), (36, 3262), (39, 3277), (43, 3298), (52, 3352),

Gene: Anandi_7 Start: 3239, Stop: 3757, Start Num: 5
Candidate Starts for Anandi_7:
(4, 3200), (Start: 5 @3239 has 25 MA's), (Start: 8 @3284 has 49 MA's), (10, 3329), (11, 3350), (25, 3536), (27, 3548), (29, 3560), (37, 3623), (45, 3671), (48, 3683), (54, 3728), (57, 3743), (58, 3746),

Gene: AreFloNak_6 Start: 3098, Stop: 3577, Start Num: 8
Candidate Starts for AreFloNak_6:
(Start: 5 @3047 has 25 MA's), (Start: 8 @3098 has 49 MA's), (9, 3131), (10, 3146), (15, 3230), (25, 3353), (29, 3377), (45, 3491), (52, 3533), (54, 3548), (57, 3563),

Gene: Argan_6 Start: 2719, Stop: 3213, Start Num: 5
Candidate Starts for Argan_6:
(4, 2680), (Start: 5 @2719 has 25 MA's), (Start: 8 @2767 has 49 MA's), (13, 2842), (20, 2929), (21, 2935), (34, 3055), (36, 3079), (39, 3094), (43, 3115), (52, 3169),

Gene: BarbieDoll_7 Start: 3012, Stop: 3524, Start Num: 5
Candidate Starts for BarbieDoll_7:
(4, 2973), (Start: 5 @3012 has 25 MA's), (Start: 8 @3060 has 49 MA's), (20, 3228), (21, 3234), (23, 3276), (26, 3306), (30, 3327), (33, 3351), (38, 3390), (39, 3393), (49, 3453), (51, 3462),

Gene: Barbonzobean_6 Start: 2756, Stop: 3220, Start Num: 8
Candidate Starts for Barbonzobean_6:
(4, 2669), (Start: 5 @2708 has 25 MA's), (Start: 8 @2756 has 49 MA's), (11, 2804), (20, 2924), (21, 2930), (23, 2972), (26, 3002), (30, 3023), (33, 3047), (38, 3086), (39, 3089), (49, 3149), (51, 3158),

Gene: Biscute_6 Start: 2756, Stop: 3220, Start Num: 8
Candidate Starts for Biscute_6:
(4, 2669), (Start: 5 @2708 has 25 MA's), (Start: 8 @2756 has 49 MA's), (20, 2924), (21, 2930), (23, 2972), (26, 3002), (30, 3023), (33, 3047), (38, 3086), (39, 3089), (49, 3149), (51, 3158),

Gene: BlackHoleSun_8 Start: 3086, Stop: 3580, Start Num: 5
Candidate Starts for BlackHoleSun_8:
(4, 3047), (Start: 5 @3086 has 25 MA's), (Start: 8 @3134 has 49 MA's), (13, 3209), (20, 3296), (21, 3302), (34, 3422), (36, 3446), (39, 3461), (43, 3482), (52, 3536),

Gene: Boog_7 Start: 3125, Stop: 3601, Start Num: 8
Candidate Starts for Boog_7:
(4, 3032), (6, 3074), (Start: 8 @3125 has 49 MA's), (18, 3287), (25, 3371), (43, 3503), (44, 3506), (52, 3557), (58, 3590),

Gene: Bouchard_6 Start: 2998, Stop: 3504, Start Num: 5
Candidate Starts for Bouchard_6:
(4, 2959), (Start: 5 @2998 has 25 MA's), (Start: 8 @3046 has 49 MA's), (18, 3196), (25, 3280), (41, 3388), (45, 3418), (47, 3424), (48, 3430), (52, 3460), (54, 3475), (58, 3493),

Gene: Breylor17_6 Start: 3223, Stop: 3702, Start Num: 8
Candidate Starts for Breylor17_6:
(Start: 5 @3172 has 25 MA's), (Start: 8 @3223 has 49 MA's), (9, 3256), (10, 3271), (15, 3355), (25, 3478), (29, 3502), (45, 3616), (52, 3658), (54, 3673), (57, 3688),

Gene: BronxBay_7 Start: 3124, Stop: 3600, Start Num: 8
Candidate Starts for BronxBay_7:
(4, 3031), (6, 3073), (Start: 8 @3124 has 49 MA's), (18, 3286), (25, 3370), (43, 3502), (44, 3505), (52, 3556), (58, 3589),

Gene: Brunswick_6 Start: 3229, Stop: 3687, Start Num: 8
Candidate Starts for Brunswick_6:
(4, 3139), (Start: 5 @3178 has 25 MA's), (Start: 8 @3229 has 49 MA's), (13, 3313), (21, 3406), (25, 3463), (29, 3487), (35, 3523), (45, 3601), (52, 3643), (54, 3658), (57, 3673),

Gene: CapnMurica_6 Start: 4301, Stop: 4783, Start Num: 8
Candidate Starts for CapnMurica_6:
(4, 4211), (Start: 5 @4250 has 25 MA's), (Start: 8 @4301 has 49 MA's), (10, 4349), (25, 4556), (29, 4580), (45, 4694), (54, 4751), (57, 4766),

Gene: CastorTray_7 Start: 3077, Stop: 3556, Start Num: 8
Candidate Starts for CastorTray_7:
(Start: 5 @3026 has 25 MA's), (Start: 8 @3077 has 49 MA's), (10, 3125), (15, 3209), (18, 3248), (21, 3275), (22, 3296), (25, 3332), (29, 3356), (45, 3470), (52, 3512), (54, 3527), (57, 3542),

Gene: Caterpillar_7 Start: 3266, Stop: 3793, Start Num: 5
Candidate Starts for Caterpillar_7:
(Start: 5 @3266 has 25 MA's), (Start: 8 @3317 has 49 MA's), (18, 3488), (23, 3551), (25, 3572), (45, 3710), (48, 3722), (54, 3767), (57, 3782),

Gene: Chlochlo_6 Start: 2999, Stop: 3505, Start Num: 5
Candidate Starts for Chlochlo_6:
(4, 2960), (Start: 5 @2999 has 25 MA's), (Start: 8 @3047 has 49 MA's), (14, 3137), (16, 3173), (25, 3281), (42, 3392), (45, 3419), (47, 3425), (52, 3461), (54, 3476), (58, 3494),

Gene: Darby_6 Start: 3080, Stop: 3559, Start Num: 8
Candidate Starts for Darby_6:
(Start: 5 @3029 has 25 MA's), (Start: 8 @3080 has 49 MA's), (9, 3113), (10, 3128), (25, 3335), (29, 3359), (45, 3473), (52, 3515), (54, 3530), (57, 3545),

Gene: DevitoJr_6 Start: 3222, Stop: 3701, Start Num: 8
Candidate Starts for DevitoJr_6:
(Start: 5 @3171 has 25 MA's), (Start: 8 @3222 has 49 MA's), (9, 3255), (10, 3270), (15, 3354), (25, 3477), (29, 3501), (45, 3615), (52, 3657), (54, 3672), (57, 3687),

Gene: Dinallo_7 Start: 4301, Stop: 4783, Start Num: 8
Candidate Starts for Dinallo_7:

(4, 4211), (Start: 5 @4250 has 25 MA's), (Start: 8 @4301 has 49 MA's), (10, 4349), (25, 4556), (29, 4580), (45, 4694), (54, 4751), (57, 4766),

Gene: Djungelskog_7 Start: 3124, Stop: 3600, Start Num: 8
Candidate Starts for Djungelskog_7:
(4, 3031), (6, 3073), (Start: 8 @3124 has 49 MA's), (18, 3286), (25, 3370), (43, 3502), (44, 3505), (52, 3556), (58, 3589),

Gene: DoctorPepper_7 Start: 3124, Stop: 3600, Start Num: 8
Candidate Starts for DoctorPepper_7:
(4, 3031), (6, 3073), (Start: 8 @3124 has 49 MA's), (18, 3286), (25, 3370), (43, 3502), (44, 3505), (52, 3556), (58, 3589),

Gene: Egad_7 Start: 3125, Stop: 3601, Start Num: 8
Candidate Starts for Egad_7:
(4, 3032), (6, 3074), (Start: 8 @3125 has 49 MA's), (18, 3287), (25, 3371), (43, 3503), (44, 3506), (52, 3557), (58, 3590),

Gene: ElephantMan_5 Start: 3235, Stop: 3717, Start Num: 8
Candidate Starts for ElephantMan_5:
(4, 3145), (Start: 5 @3184 has 25 MA's), (Start: 8 @3235 has 49 MA's), (9, 3268), (10, 3283), (25, 3490), (29, 3514), (45, 3628), (47, 3634), (52, 3670), (54, 3685), (57, 3700),

Gene: GantcherGoblin_6 Start: 2719, Stop: 3213, Start Num: 5
Candidate Starts for GantcherGoblin_6:
(4, 2680), (Start: 5 @2719 has 25 MA's), (Start: 8 @2767 has 49 MA's), (13, 2842), (20, 2929), (21, 2935), (34, 3055), (36, 3079), (39, 3094), (43, 3115), (52, 3169),

Gene: Giantsbane_6 Start: 3059, Stop: 3517, Start Num: 8
Candidate Starts for Giantsbane_6:
(4, 2960), (7, 3050), (Start: 8 @3059 has 49 MA's), (16, 3185), (25, 3293), (41, 3401), (45, 3431), (47, 3437), (52, 3473), (54, 3488), (58, 3506),

Gene: Gordon_6 Start: 4346, Stop: 4825, Start Num: 8
Candidate Starts for Gordon_6:
(Start: 5 @4295 has 25 MA's), (Start: 8 @4346 has 49 MA's), (9, 4379), (10, 4394), (15, 4478), (25, 4601), (29, 4625), (42, 4712), (45, 4739), (52, 4781), (54, 4796), (57, 4811),

Gene: Hemma_7 Start: 2876, Stop: 3331, Start Num: 8
Candidate Starts for Hemma_7:
(4, 2783), (Start: 8 @2876 has 49 MA's), (19, 3032), (25, 3107), (29, 3131), (41, 3212), (45, 3242), (47, 3248), (50, 3266), (52, 3284), (54, 3299), (57, 3314), (58, 3317),

Gene: HerbBucket_6 Start: 3125, Stop: 3601, Start Num: 8
Candidate Starts for HerbBucket_6:
(4, 3032), (6, 3074), (Start: 8 @3125 has 49 MA's), (18, 3287), (25, 3371), (43, 3503), (44, 3506), (52, 3557), (58, 3590),

Gene: Ingrid_6 Start: 3076, Stop: 3603, Start Num: 5
Candidate Starts for Ingrid_6:
(3, 3007), (Start: 5 @3076 has 25 MA's), (Start: 8 @3127 has 49 MA's), (15, 3256), (18, 3295), (23, 3358), (25, 3379), (42, 3490), (45, 3517), (50, 3541), (52, 3559), (54, 3574), (57, 3589), (58, 3592),

Gene: Inked_7 Start: 3250, Stop: 3777, Start Num: 5
Candidate Starts for Inked_7:
(4, 3211), (Start: 5 @3250 has 25 MA's), (Start: 8 @3301 has 49 MA's), (10, 3346), (19, 3478), (23, 3532), (25, 3553), (37, 3643), (45, 3691), (46, 3694), (47, 3697), (52, 3733), (54, 3748), (57, 3763), (58, 3766),

Gene: Issa_6 Start: 3050, Stop: 3532, Start Num: 8
Candidate Starts for Issa_6:
(4, 2960), (Start: 5 @2999 has 25 MA's), (Start: 8 @3050 has 49 MA's), (9, 3083), (10, 3098), (15, 3182), (25, 3305), (29, 3329), (45, 3443), (52, 3485), (54, 3500), (57, 3515),

Gene: Jeremy4pt0_7 Start: 3124, Stop: 3600, Start Num: 8
Candidate Starts for Jeremy4pt0_7:
(4, 3031), (6, 3073), (Start: 8 @3124 has 49 MA's), (18, 3286), (25, 3370), (43, 3502), (44, 3505), (52, 3556), (58, 3589),

Gene: KevinMinion_6 Start: 2875, Stop: 3369, Start Num: 5
Candidate Starts for KevinMinion_6:
(4, 2836), (Start: 5 @2875 has 25 MA's), (Start: 8 @2923 has 49 MA's), (13, 2998), (20, 3085), (21, 3091), (34, 3211), (36, 3235), (39, 3250), (43, 3271), (52, 3325),

Gene: Kinny_7 Start: 3060, Stop: 3524, Start Num: 8
Candidate Starts for Kinny_7:
(4, 2973), (Start: 5 @3012 has 25 MA's), (Start: 8 @3060 has 49 MA's), (20, 3228), (21, 3234), (23, 3276), (26, 3306), (30, 3327), (33, 3351), (38, 3390), (39, 3393), (49, 3453), (51, 3462),

Gene: Leathea_7 Start: 2947, Stop: 3408, Start Num: 8
Candidate Starts for Leathea_7:
(Start: 5 @2899 has 25 MA's), (Start: 8 @2947 has 49 MA's), (20, 3115), (21, 3121), (26, 3193), (30, 3214), (33, 3238), (39, 3280), (50, 3346), (52, 3364),

Gene: Lewando_7 Start: 3011, Stop: 3523, Start Num: 5
Candidate Starts for Lewando_7:
(4, 2972), (Start: 5 @3011 has 25 MA's), (Start: 8 @3059 has 49 MA's), (20, 3227), (21, 3233), (23, 3275), (26, 3305), (30, 3326), (33, 3350), (38, 3389), (39, 3392), (49, 3452), (51, 3461),

Gene: LilHuddy_6 Start: 3008, Stop: 3514, Start Num: 5
Candidate Starts for LilHuddy_6:
(4, 2969), (Start: 5 @3008 has 25 MA's), (Start: 8 @3056 has 49 MA's), (18, 3206), (25, 3290), (41, 3398), (45, 3428), (48, 3440), (54, 3485), (58, 3503),

Gene: Linda_7 Start: 3124, Stop: 3600, Start Num: 8
Candidate Starts for Linda_7:
(4, 3031), (6, 3073), (Start: 8 @3124 has 49 MA's), (18, 3286), (25, 3370), (43, 3502), (44, 3505), (52, 3556), (58, 3589),

Gene: Loretta_6 Start: 3076, Stop: 3603, Start Num: 5
Candidate Starts for Loretta_6:
(3, 3007), (Start: 5 @3076 has 25 MA's), (Start: 8 @3127 has 49 MA's), (15, 3256), (18, 3295), (23, 3358), (25, 3379), (42, 3490), (45, 3517), (50, 3541), (52, 3559), (54, 3574), (57, 3589), (58, 3592),

Gene: LucySwiss_6 Start: 3069, Stop: 3551, Start Num: 8
Candidate Starts for LucySwiss_6:

(4, 2979), (Start: 5 @3018 has 25 MA's), (Start: 8 @3069 has 49 MA's), (9, 3102), (10, 3117), (15, 3201), (25, 3324), (29, 3348), (45, 3462), (52, 3504), (54, 3519), (57, 3534),

Gene: Makai_6 Start: 3164, Stop: 3643, Start Num: 8
Candidate Starts for Makai_6:
(4, 3065), (Start: 8 @3164 has 49 MA's), (10, 3212), (16, 3311), (25, 3419), (45, 3557), (52, 3599), (54, 3614), (57, 3629),

Gene: Mardi_8 Start: 3020, Stop: 3514, Start Num: 5
Candidate Starts for Mardi_8:
(4, 2981), (Start: 5 @3020 has 25 MA's), (Start: 8 @3068 has 49 MA's), (13, 3143), (20, 3230), (21, 3236), (34, 3356), (36, 3380), (39, 3395), (43, 3416), (52, 3470),

Gene: MediumFry_7 Start: 3295, Stop: 3822, Start Num: 5
Candidate Starts for MediumFry_7:
(Start: 5 @3295 has 25 MA's), (Start: 8 @3346 has 49 MA's), (18, 3517), (23, 3580), (25, 3601), (45, 3739), (48, 3751), (54, 3796), (57, 3811),

Gene: Michelle_7 Start: 3124, Stop: 3600, Start Num: 8
Candidate Starts for Michelle_7:
(4, 3031), (6, 3073), (Start: 8 @3124 has 49 MA's), (18, 3286), (25, 3370), (43, 3502), (44, 3505), (52, 3556), (58, 3589),

Gene: MiniBagel_6 Start: 4301, Stop: 4783, Start Num: 8
Candidate Starts for MiniBagel_6:
(4, 4211), (Start: 5 @4250 has 25 MA's), (Start: 8 @4301 has 49 MA's), (10, 4349), (25, 4556), (29, 4580), (45, 4694), (54, 4751), (57, 4766),

Gene: MrAaronian_7 Start: 3124, Stop: 3600, Start Num: 8
Candidate Starts for MrAaronian_7:
(4, 3031), (6, 3073), (Start: 8 @3124 has 49 MA's), (18, 3286), (25, 3370), (43, 3502), (44, 3505), (52, 3556), (58, 3589),

Gene: Muglass_6 Start: 2756, Stop: 3220, Start Num: 8
Candidate Starts for Muglass_6:
(4, 2669), (Start: 5 @2708 has 25 MA's), (Start: 8 @2756 has 49 MA's), (20, 2924), (21, 2930), (23, 2972), (26, 3002), (30, 3023), (33, 3047), (38, 3086), (39, 3089), (49, 3149), (51, 3158),

Gene: Natasha_6 Start: 2934, Stop: 3410, Start Num: 8
Candidate Starts for Natasha_6:
(4, 2841), (6, 2883), (Start: 8 @2934 has 49 MA's), (13, 3045), (22, 3159), (28, 3216), (41, 3294), (43, 3315), (53, 3381),

Gene: Navi1117_7 Start: 3114, Stop: 3608, Start Num: 5
Candidate Starts for Navi1117_7:
(4, 3075), (Start: 5 @3114 has 25 MA's), (Start: 8 @3162 has 49 MA's), (12, 3216), (20, 3324), (21, 3330), (34, 3450), (36, 3474), (39, 3489), (43, 3510), (52, 3564),

Gene: Nightmare_6 Start: 3069, Stop: 3548, Start Num: 8
Candidate Starts for Nightmare_6:
(Start: 5 @3018 has 25 MA's), (Start: 8 @3069 has 49 MA's), (9, 3102), (10, 3117), (15, 3201), (25, 3324), (29, 3348), (45, 3462), (52, 3504), (54, 3519), (57, 3534),

Gene: Niktson_5 Start: 3235, Stop: 3717, Start Num: 8
Candidate Starts for Niktson_5:
(4, 3145), (Start: 5 @3184 has 25 MA's), (Start: 8 @3235 has 49 MA's), (9, 3268), (10, 3283), (25, 3490), (29, 3514), (45, 3628), (47, 3634), (52, 3670), (54, 3685), (57, 3700),

Gene: Nivinsha_6 Start: 3098, Stop: 3577, Start Num: 8
Candidate Starts for Nivinsha_6:
(Start: 5 @3047 has 25 MA's), (Start: 8 @3098 has 49 MA's), (9, 3131), (10, 3146), (15, 3230), (25, 3353), (29, 3377), (45, 3491), (52, 3533), (54, 3548), (57, 3563),

Gene: Onestar_6 Start: 3159, Stop: 3623, Start Num: 8
Candidate Starts for Onestar_6:
(4, 3066), (6, 3108), (Start: 8 @3159 has 49 MA's), (18, 3312), (27, 3408), (32, 3441), (37, 3489), (43, 3528), (44, 3531),

Gene: Phaby_6 Start: 2998, Stop: 3504, Start Num: 5
Candidate Starts for Phaby_6:
(4, 2959), (Start: 5 @2998 has 25 MA's), (Start: 8 @3046 has 49 MA's), (18, 3196), (25, 3280), (41, 3388), (45, 3418), (47, 3424), (48, 3430), (54, 3475), (58, 3493),

Gene: Phaila_7 Start: 3036, Stop: 3482, Start Num: 8
Candidate Starts for Phaila_7:
(4, 2949), (Start: 5 @2988 has 25 MA's), (Start: 8 @3036 has 49 MA's), (20, 3198), (21, 3204), (34, 3324), (36, 3348), (39, 3363), (43, 3384), (52, 3438),

Gene: PoeMe_7 Start: 3022, Stop: 3516, Start Num: 5
Candidate Starts for PoeMe_7:
(4, 2983), (Start: 5 @3022 has 25 MA's), (Start: 8 @3070 has 49 MA's), (13, 3145), (20, 3232), (21, 3238), (34, 3358), (36, 3382), (39, 3397), (43, 3418), (52, 3472),

Gene: Powelldog_6 Start: 2850, Stop: 3332, Start Num: 8
Candidate Starts for Powelldog_6:
(4, 2760), (6, 2802), (Start: 8 @2850 has 49 MA's), (10, 2895), (13, 2961), (28, 3132), (32, 3156), (43, 3237), (44, 3240), (52, 3291), (53, 3303), (57, 3321),

Gene: ProfFrink_7 Start: 3124, Stop: 3600, Start Num: 8
Candidate Starts for ProfFrink_7:
(4, 3031), (6, 3073), (Start: 8 @3124 has 49 MA's), (18, 3286), (25, 3370), (43, 3502), (44, 3505), (52, 3556), (58, 3589),

Gene: Raunak_7 Start: 3124, Stop: 3600, Start Num: 8
Candidate Starts for Raunak_7:
(4, 3031), (6, 3073), (Start: 8 @3124 has 49 MA's), (18, 3286), (25, 3370), (43, 3502), (44, 3505), (52, 3556), (58, 3589),

Gene: Remlit_8 Start: 3002, Stop: 3496, Start Num: 5
Candidate Starts for Remlit_8:
(4, 2963), (Start: 5 @3002 has 25 MA's), (Start: 8 @3050 has 49 MA's), (20, 3212), (21, 3218), (34, 3338), (36, 3362), (39, 3377), (43, 3398), (52, 3452),

Gene: Renaldo_8 Start: 3012, Stop: 3524, Start Num: 5
Candidate Starts for Renaldo_8:

(4, 2973), (Start: 5 @3012 has 25 MA's), (Start: 8 @3060 has 49 MA's), (20, 3228), (21, 3234), (23, 3276), (26, 3306), (30, 3327), (33, 3351), (38, 3390), (39, 3393), (49, 3453), (51, 3462),

Gene: RustyBoy_6 Start: 2934, Stop: 3410, Start Num: 8
Candidate Starts for RustyBoy_6:
(4, 2841), (6, 2883), (Start: 8 @2934 has 49 MA's), (13, 3045), (22, 3159), (28, 3216), (41, 3294), (43, 3315), (53, 3381),

Gene: Salk_7 Start: 3124, Stop: 3600, Start Num: 8
Candidate Starts for Salk_7:
(4, 3031), (6, 3073), (Start: 8 @3124 has 49 MA's), (18, 3286), (25, 3370), (43, 3502), (44, 3505), (52, 3556), (58, 3589),

Gene: ScienceWizSam_7 Start: 3053, Stop: 3532, Start Num: 8
Candidate Starts for ScienceWizSam_7:
(Start: 5 @3002 has 25 MA's), (Start: 8 @3053 has 49 MA's), (9, 3086), (10, 3101), (15, 3185), (25, 3308), (29, 3332), (45, 3446), (52, 3488), (54, 3503), (57, 3518),

Gene: Shepard_6 Start: 3008, Stop: 3514, Start Num: 5
Candidate Starts for Shepard_6:
(4, 2969), (Start: 5 @3008 has 25 MA's), (Start: 8 @3056 has 49 MA's), (18, 3206), (25, 3290), (41, 3398), (45, 3428), (47, 3434), (48, 3440), (54, 3485), (58, 3503),

Gene: Shiba_7 Start: 3124, Stop: 3600, Start Num: 8
Candidate Starts for Shiba_7:
(4, 3031), (6, 3073), (Start: 8 @3124 has 49 MA's), (18, 3286), (25, 3370), (43, 3502), (44, 3505), (52, 3556), (58, 3589),

Gene: Sloopyjoe_7 Start: 3125, Stop: 3601, Start Num: 8
Candidate Starts for Sloopyjoe_7:
(4, 3032), (6, 3074), (Start: 8 @3125 has 49 MA's), (18, 3287), (25, 3371), (43, 3503), (44, 3506), (52, 3557), (58, 3590),

Gene: Spain_6 Start: 3124, Stop: 3600, Start Num: 8
Candidate Starts for Spain_6:
(4, 3031), (6, 3073), (Start: 8 @3124 has 49 MA's), (18, 3286), (25, 3370), (43, 3502), (44, 3505), (52, 3556), (58, 3589),

Gene: Sporto_6 Start: 3068, Stop: 3541, Start Num: 8
Candidate Starts for Sporto_6:
(4, 2975), (6, 3017), (Start: 8 @3068 has 49 MA's), (17, 3227), (22, 3290), (28, 3347), (32, 3371), (41, 3425), (43, 3446), (46, 3461), (53, 3512), (56, 3521),

Gene: Sprinkle_6 Start: 3041, Stop: 3568, Start Num: 6
Candidate Starts for Sprinkle_6:
(1, 2864), (4, 2999), (6, 3041), (Start: 8 @3092 has 49 MA's), (13, 3203), (15, 3230), (17, 3254), (22, 3317), (24, 3338), (28, 3374), (41, 3452), (43, 3473), (44, 3476), (46, 3488), (47, 3491),

Gene: StarLord_7 Start: 3125, Stop: 3601, Start Num: 8
Candidate Starts for StarLord_7:
(4, 3032), (6, 3074), (Start: 8 @3125 has 49 MA's), (18, 3287), (25, 3371), (43, 3503), (44, 3506), (52, 3557), (58, 3590),

Gene: Stardrop_7 Start: 3022, Stop: 3519, Start Num: 5
Candidate Starts for Stardrop_7:
(4, 2983), (Start: 5 @3022 has 25 MA's), (Start: 8 @3070 has 49 MA's), (13, 3148), (20, 3235), (21, 3241), (34, 3361), (36, 3385), (39, 3400), (43, 3421), (52, 3475),

Gene: Stayer_7 Start: 3124, Stop: 3600, Start Num: 8
Candidate Starts for Stayer_7:
(4, 3031), (6, 3073), (Start: 8 @3124 has 49 MA's), (18, 3286), (25, 3370), (43, 3502), (44, 3505), (52, 3556), (58, 3589),

Gene: Synepsis_5 Start: 3218, Stop: 3697, Start Num: 8
Candidate Starts for Synepsis_5:
(Start: 5 @3167 has 25 MA's), (Start: 8 @3218 has 49 MA's), (9, 3251), (10, 3266), (15, 3350), (25, 3473), (29, 3497), (45, 3611), (52, 3653), (54, 3668), (57, 3683),

Gene: Tatanka_5 Start: 3158, Stop: 3637, Start Num: 8
Candidate Starts for Tatanka_5:
(Start: 5 @3107 has 25 MA's), (Start: 8 @3158 has 49 MA's), (9, 3191), (10, 3206), (15, 3290), (25, 3413), (29, 3437), (45, 3551), (52, 3593), (54, 3608), (57, 3623),

Gene: Teacup_6 Start: 3050, Stop: 3532, Start Num: 8
Candidate Starts for Teacup_6:
(4, 2960), (Start: 5 @2999 has 25 MA's), (Start: 8 @3050 has 49 MA's), (9, 3083), (10, 3098), (25, 3305), (29, 3329), (45, 3443), (52, 3485), (54, 3500), (57, 3515),

Gene: Tenney120_7 Start: 3002, Stop: 3496, Start Num: 5
Candidate Starts for Tenney120_7:
(4, 2963), (Start: 5 @3002 has 25 MA's), (Start: 8 @3050 has 49 MA's), (13, 3125), (20, 3212), (21, 3218), (34, 3338), (36, 3362), (39, 3377), (43, 3398), (52, 3452),

Gene: Tenno_7 Start: 4301, Stop: 4783, Start Num: 8
Candidate Starts for Tenno_7:
(4, 4211), (Start: 5 @4250 has 25 MA's), (Start: 8 @4301 has 49 MA's), (10, 4349), (25, 4556), (29, 4580), (45, 4694), (54, 4751), (57, 4766),

Gene: Tipton_6 Start: 2999, Stop: 3505, Start Num: 5
Candidate Starts for Tipton_6:
(Start: 5 @2999 has 25 MA's), (Start: 8 @3047 has 49 MA's), (14, 3137), (16, 3173), (25, 3281), (27, 3293), (42, 3392), (45, 3419), (47, 3425), (52, 3461), (54, 3476), (58, 3494),

Gene: Tokki_6 Start: 3008, Stop: 3514, Start Num: 5
Candidate Starts for Tokki_6:
(4, 2969), (Start: 5 @3008 has 25 MA's), (Start: 8 @3056 has 49 MA's), (14, 3146), (16, 3182), (25, 3290), (42, 3401), (45, 3428), (47, 3434), (52, 3470), (54, 3485), (58, 3503),

Gene: TrixiePhattel_7 Start: 2949, Stop: 3449, Start Num: 5
Candidate Starts for TrixiePhattel_7:
(4, 2910), (Start: 5 @2949 has 25 MA's), (Start: 8 @2997 has 49 MA's), (12, 3057), (20, 3165), (21, 3171), (30, 3264), (31, 3267), (34, 3291), (40, 3333), (50, 3387), (52, 3405), (55, 3423),

Gene: Truckee_6 Start: 3111, Stop: 3590, Start Num: 8
Candidate Starts for Truckee_6:

(4, 3012), (Start: 8 @3111 has 49 MA's), (10, 3159), (16, 3258), (25, 3366), (45, 3504), (52, 3546), (54, 3561), (57, 3576), (58, 3579),

Gene: Trustiboi_6 Start: 3242, Stop: 3721, Start Num: 8
Candidate Starts for Trustiboi_6:
(Start: 5 @3191 has 25 MA's), (Start: 8 @3242 has 49 MA's), (9, 3275), (10, 3290), (15, 3374), (25, 3497), (29, 3521), (45, 3635), (52, 3677), (54, 3692), (57, 3707),

Gene: Uzumaki_7 Start: 3002, Stop: 3496, Start Num: 5
Candidate Starts for Uzumaki_7:
(4, 2963), (Start: 5 @3002 has 25 MA's), (Start: 8 @3050 has 49 MA's), (13, 3125), (20, 3212), (21, 3218), (34, 3338), (36, 3362), (39, 3377), (43, 3398), (52, 3452),

Gene: Westerlin_6 Start: 4304, Stop: 4783, Start Num: 8
Candidate Starts for Westerlin_6:
(Start: 5 @4253 has 25 MA's), (Start: 8 @4304 has 49 MA's), (9, 4337), (10, 4352), (15, 4436), (25, 4559), (29, 4583), (45, 4697), (52, 4739), (54, 4754), (57, 4769),

Gene: Zeina_7 Start: 3012, Stop: 3506, Start Num: 5
Candidate Starts for Zeina_7:
(4, 2973), (Start: 5 @3012 has 25 MA's), (Start: 8 @3060 has 49 MA's), (13, 3135), (20, 3222), (21, 3228), (34, 3348), (36, 3372), (39, 3387), (43, 3408), (52, 3462),

Gene: Zippen_7 Start: 3281, Stop: 3808, Start Num: 5
Candidate Starts for Zippen_7:
(2, 3212), (Start: 5 @3281 has 25 MA's), (Start: 8 @3332 has 49 MA's), (10, 3377), (19, 3509), (23, 3563), (25, 3584), (37, 3674), (45, 3722), (46, 3725), (52, 3764), (54, 3779), (57, 3794), (58, 3797),