Pham 291091

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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 291091 Report

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

Pham number 291091 has 80 members, 6 are drafts.

Phages represented in each track:
- Track 1 : Azula_30, Blueberry_30, Gambino_30, MissRona_30
- Track 2 : Fenry_27, Mellie_27
- Track 3 : PhrostedPhlake_30, Delian_29, CaptainKirk2_28
- Track 4 : Obliviate_28
- Track 5 : Jalammah_30
- Track 6 : MintFen_28, Melba_28, Barco_28
- Track 7 : Zilla_28
- Track 8 : CarolAnn_29, Blino_29
- Track 9 : Walrus_30
- Track 10 : Malachai_29, Begonia_29
- Track 11 : Archis_29
- Track 12 : BlingBling_28
- Track 13 : Hitter_28, Samba_28
- Track 14 : JuJu_29
- Track 15 : Pipp_28, Utz_28
- Track 16 : UmaThurman_28
- Track 17 : Zarbodnamra_28
- Track 18 : ZiggyZoo_28
- Track 19 : Wisp_27
- Track 20 : Guacamole_28, JasperJr_28
- Track 21 : Lysidious_29
- Track 22 : Frokostdame_28
- Track 23 : Confidence_27
- Track 24 : Jablanski_29, Pytheas_29
- Track 25 : Posh_29, Wrigley_29
- Track 26 : BeeGee_27
- Track 27 : Cashline_27
- Track 28 : LonelyBoi_28
- Track 29 : BackstagePass_27
- Track 30 : Dmitri_28
- Track 31 : BBQValindra_27
- Track 32 : RayTheFireFly_28
- Track 33 : Eyes_27
- Track 34 : Opie_27
- Track 35 : DirtyBoi_29
- Track 36 : MagicMan_27, Schnabeltier_27
- Track 37 : HannahD_27, GEazy_27

- Track 38 : Coriander_28
- Track 39 : Bunker_27
- Track 40 : Bowser_27
- Track 41 : Moonflower_28
- Track 42 : ZAYM_28, TaronosaurasRx_27
- Track 43 : Hedwig_29
- Track 44 : Bantam_37
- Track 45 : DatBoi_38
- Track 46 : Mollymur_38
- Track 47 : SpeedDemon_390
- Track 48 : Yago84_27, AnClar_28
- Track 49 : LittleMunchkin_29
- Track 50 : Sisko_27
- Track 51 : Octobien14_30
- Track 52 : ArchiDore_22
- Track 53 : Ruthy_22
- Track 54 : Cafasso_22, ModicumRichard_22
- Track 55 : Aleemily_21
- Track 56 : Morgana_21
- Track 57 : ObLaDi_22
- Track 58 : VanLee_22
- Track 59 : Colossa_22
- Track 60 : Eyre_24

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

The start number called the most often in the published annotations is 53, it was called in 33 of the 74 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Archis_29, Azula_30, Barco_28, Begonia_29, BlingBling_28, Blino_29, Blueberry_30, CaptainKirk2_28, CarolAnn_29, Delian_29, Fenry_27, Frokostdame_28, Gambino_30, Guacamole_28, Hitter_28, Jalammah_30, JasperJr_28, JuJu_29, Lysidious_29, Malachai_29, Melba_28, Mellie_27, MintFen_28, MissRona_30, Obliviate_28, PhrostedPhlake_30, Pipp_28, Samba_28, UmaThurman_28, Utz_28, Walrus_30, Wisp_27, Zarbodnamra_28, ZiggyZoo_28,

Genes that have the "Most Annotated" start but do not call it:
- Zilla_28,

Genes that do not have the "Most Annotated" start:
- Aleemily_21, AnClar_28, ArchiDore_22, BBQValindra_27, BackstagePass_27, Bantam_37, BeeGee_27, Bowser_27, Bunker_27, Cafasso_22, Cashline_27, Colossa_22, Confidence_27, Coriander_28, DatBoi_38, DirtyBoi_29, Dmitri_28, Eyes_27, Eyre_24, GEazy_27, HannahD_27, Hedwig_29, Jablanski_29, LittleMunchkin_29, LonelyBoi_28, MagicMan_27, ModicumRichard_22, Mollymur_38, Moonflower_28, Morgana_21, ObLaDi_22, Octobien14_30, Opie_27, Posh_29, Pytheas_29, RayTheFireFly_28, Ruthy_22, Schnabeltier_27, Sisko_27, SpeedDemon_390, TaronosaurasRx_27, VanLee_22, Wrigley_29, Yago84_27, ZAYM_28,

Summary by start number:

Start 16:
• Found in 8 of 80 (10.0%) of genes in pham
• Manual Annotations of this start: 8 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BeeGee_27 (CY5), Cashline_27 (CY6), Confidence_27 (CY1), Jablanski_29 (CY3), LonelyBoi_28 (CY7), Posh_29 (CY4), Pytheas_29 (CY3), Wrigley_29 (CY4),

Start 19:
• Found in 1 of 80 (1.2%) of genes in pham
• Manual Annotations of this start: 1 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Bunker_27 (DB),

Start 20:
• Found in 17 of 80 (21.2%) of genes in pham
• Manual Annotations of this start: 14 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BBQValindra_27 (DB), BackstagePass_27 (DB), Bowser_27 (DB), Coriander_28 (DB), DirtyBoi_29 (DB), Dmitri_28 (DB), Eyes_27 (DB), GEazy_27 (DB), HannahD_27 (DB), Hedwig_29 (DB), MagicMan_27 (DB), Moonflower_28 (DB), Opie_27 (DB), RayTheFireFly_28 (DB), Schnabeltier_27 (DB), TaronosaurasRx_27 (DB), ZAYM_28 (DB),

Start 21:
• Found in 2 of 80 (2.5%) of genes in pham
• Manual Annotations of this start: 2 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ArchiDore_22 (DW), Ruthy_22 (DW),

Start 26:
• Found in 5 of 80 (6.2%) of genes in pham
• Manual Annotations of this start: 5 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Aleemily_21 (DZ), Cafasso_22 (DZ), ModicumRichard_22 (DZ), Morgana_21 (DZ), ObLaDi_22 (DZ),

Start 27:
• Found in 4 of 80 (5.0%) of genes in pham
• Manual Annotations of this start: 4 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Bantam_37 (DL), DatBoi_38 (DL), Mollymur_38 (DL), SpeedDemon_390 (DL),

Start 29:
• Found in 2 of 80 (2.5%) of genes in pham
• Manual Annotations of this start: 1 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Colossa_22 (KA), VanLee_22 (KA),

Start 44:
• Found in 1 of 80 (1.2%) of genes in pham
• Manual Annotations of this start: 1 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Eyre_24 (singleton),

Start 45:
• Found in 4 of 80 (5.0%) of genes in pham
• Manual Annotations of this start: 4 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AnClar_28 (DR), LittleMunchkin_29 (DR), Sisko_27 (DR), Yago84_27 (DR),

Start 53:
• Found in 35 of 80 (43.8%) of genes in pham
• Manual Annotations of this start: 33 of 74
• Called 97.1% of time when present
• Phage (with cluster) where this start called: Archis_29 (CV), Azula_30 (CV), Barco_28 (CV), Begonia_29 (CV), BlingBling_28 (CV), Blino_29 (CV), Blueberry_30 (CV), CaptainKirk2_28 (CV), CarolAnn_29 (CV), Delian_29 (CV), Fenry_27 (CV), Frokostdame_28 (CV), Gambino_30 (CV), Guacamole_28 (CV), Hitter_28 (CV), Jalammah_30 (CV), JasperJr_28 (CV), JuJu_29 (CV), Lysidious_29 (CV), Malachai_29 (CV), Melba_28 (CV), Mellie_27 (CV), MintFen_28 (CV), MissRona_30 (CV), Obliviate_28 (CV), PhrostedPhlake_30 (CV), Pipp_28 (CV), Samba_28 (CV), UmaThurman_28 (CV), Utz_28 (CV), Walrus_30 (CV), Wisp_27 (CV), Zarbodnamra_28 (CV), ZiggyZoo_28 (CV),

Start 60:
• Found in 1 of 80 (1.2%) of genes in pham
• Manual Annotations of this start: 1 of 74
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Octobien14_30 (DU1),

Start 79:
• Found in 35 of 80 (43.8%) of genes in pham
• No Manual Annotations of this start.
• Called 2.9% of time when present
• Phage (with cluster) where this start called: Zilla_28 (CV),

Summary by clusters:

There are 15 clusters represented in this pham: CY1, CY3, DL, CY7, CY6, CY5, CY4, DB, KA, DZ, DW, DU1, singleton, DR, CV,

Info for manual annotations of cluster CV:
•Start number 53 was manually annotated 33 times for cluster CV.

Info for manual annotations of cluster CY1:
•Start number 16 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster CY3:
•Start number 16 was manually annotated 2 times for cluster CY3.

Info for manual annotations of cluster CY4:
•Start number 16 was manually annotated 2 times for cluster CY4.

Info for manual annotations of cluster CY5:
•Start number 16 was manually annotated 1 time for cluster CY5.

Info for manual annotations of cluster CY6:
•Start number 16 was manually annotated 1 time for cluster CY6.

Info for manual annotations of cluster CY7:
•Start number 16 was manually annotated 1 time for cluster CY7.

Info for manual annotations of cluster DB:
•Start number 19 was manually annotated 1 time for cluster DB.
•Start number 20 was manually annotated 14 times for cluster DB.

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

Info for manual annotations of cluster DR:
•Start number 45 was manually annotated 4 times for cluster DR.

Info for manual annotations of cluster DU1:
•Start number 60 was manually annotated 1 time for cluster DU1.

Info for manual annotations of cluster DW:
•Start number 21 was manually annotated 2 times for cluster DW.

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

Info for manual annotations of cluster KA:
•Start number 29 was manually annotated 1 time for cluster KA.

Gene Information:

Gene: Aleemily_21 Start: 19129, Stop: 20868, Start Num: 26
Candidate Starts for Aleemily_21:
(3, 18736), (Start: 26 @19129 has 5 MA's), (38, 19210), (48, 19270), (101, 19588), (135, 19954), (137, 19966), (154, 20122), (158, 20131), (159, 20134), (163, 20173), (164, 20179), (172, 20269), (176, 20296), (181, 20332), (193, 20458), (201, 20533), (209, 20611), (210, 20617), (241, 20803), (248, 20836),

Gene: AnClar_28 Start: 28557, Stop: 30143, Start Num: 45
Candidate Starts for AnClar_28:
(Start: 45 @28557 has 4 MA's), (50, 28614), (51, 28626), (63, 28671), (73, 28725), (88, 28812), (102, 28899), (110, 28941), (126, 29148), (127, 29160), (137, 29226), (166, 29454), (171, 29478), (172, 29505), (174, 29520), (187, 29637), (188, 29658), (192, 29694), (217, 29901), (220, 29913), (224, 29940), (238, 30039), (245, 30069), (249, 30117), (250, 30135),

Gene: ArchiDore_22 Start: 19498, Stop: 21270, Start Num: 21

Candidate Starts for ArchiDore_22:
(Start: 21 @19498 has 2 MA's), (23, 19549), (28, 19609), (37, 19654), (70, 19819), (71, 19828), (86, 19903), (92, 19954), (102, 20011), (111, 20062), (114, 20098), (138, 20347), (142, 20392), (144, 20398), (146, 20428), (172, 20629), (184, 20728), (187, 20758), (189, 20791), (196, 20839), (198, 20881), (199, 20887), (200, 20893), (202, 20908), (220, 21031), (230, 21091), (237, 21145), (249, 21241),

Gene: Archis_29 Start: 23597, Stop: 25114, Start Num: 53
Candidate Starts for Archis_29:
(47, 23537), (Start: 53 @23597 has 33 MA's), (79, 23711), (84, 23738), (101, 23849), (114, 23948), (115, 23966), (117, 23993), (148, 24299), (166, 24425), (184, 24575), (187, 24605), (189, 24638), (192, 24662), (196, 24686), (200, 24740), (220, 24878), (230, 24938), (233, 24968), (249, 25088),

Gene: Azula_30 Start: 23695, Stop: 25212, Start Num: 53
Candidate Starts for Azula_30:
(47, 23635), (Start: 53 @23695 has 33 MA's), (72, 23776), (79, 23809), (84, 23836), (85, 23842), (90, 23887), (91, 23893), (104, 23977), (108, 23989), (114, 24046), (115, 24064), (117, 24091), (147, 24388), (166, 24523), (170, 24541), (184, 24673), (187, 24703), (189, 24736), (192, 24760), (196, 24784), (200, 24838), (220, 24976), (230, 25036), (233, 25066), (249, 25186),

Gene: BBQValindra_27 Start: 22145, Stop: 23977, Start Num: 20
Candidate Starts for BBQValindra_27:
(14, 22013), (15, 22016), (Start: 20 @22145 has 14 MA's), (43, 22346), (72, 22526), (86, 22598), (101, 22706), (102, 22718), (138, 23054), (146, 23135), (161, 23222), (178, 23390), (184, 23435), (187, 23465), (190, 23510), (191, 23516), (196, 23546), (198, 23588), (230, 23798), (234, 23834), (236, 23846),

Gene: BackstagePass_27 Start: 22271, Stop: 24103, Start Num: 20
Candidate Starts for BackstagePass_27:
(5, 22046), (10, 22082), (14, 22139), (15, 22142), (Start: 20 @22271 has 14 MA's), (33, 22433), (71, 22649), (72, 22652), (86, 22724), (92, 22775), (97, 22799), (101, 22832), (116, 22958), (146, 23261), (160, 23342), (172, 23462), (180, 23525), (184, 23561), (187, 23591), (196, 23672), (230, 23924), (233, 23954), (237, 23978), (249, 24074),

Gene: Bantam_37 Start: 32917, Stop: 34665, Start Num: 27
Candidate Starts for Bantam_37:
(Start: 27 @32917 has 4 MA's), (30, 32947), (39, 32974), (74, 33163), (80, 33190), (87, 33235), (107, 33424), (133, 33721), (134, 33730), (136, 33757), (149, 33865), (154, 33919), (158, 33928), (164, 33976), (165, 33991), (168, 34021), (172, 34066), (176, 34093), (211, 34417), (214, 34423), (244, 34609), (248, 34633),

Gene: Barco_28 Start: 23386, Stop: 24900, Start Num: 53
Candidate Starts for Barco_28:
(47, 23326), (Start: 53 @23386 has 33 MA's), (79, 23500), (84, 23527), (108, 23680), (114, 23737), (115, 23755), (117, 23782), (147, 24079), (148, 24088), (166, 24214), (184, 24364), (187, 24394), (190, 24439), (196, 24475), (198, 24517), (212, 24643), (226, 24712), (228, 24721), (234, 24769),

Gene: BeeGee_27 Start: 22408, Stop: 24279, Start Num: 16
Candidate Starts for BeeGee_27:
(1, 22162), (8, 22270), (9, 22273), (12, 22297), (13, 22303), (Start: 16 @22408 has 8 MA's), (25, 22549), (32, 22609), (56, 22753), (66, 22783), (67, 22786), (71, 22825), (77, 22858), (86, 22900), (97, 22975), (110, 23062), (142, 23401), (144, 23407), (146, 23437), (160, 23518), (172, 23638), (184, 23737), (187, 23767), (196, 23848), (198, 23890), (230, 24100), (233, 24130), (234, 24136), (249,

24250),

Gene: Begonia_29 Start: 23867, Stop: 25366, Start Num: 53
Candidate Starts for Begonia_29:
(47, 23807), (Start: 53 @23867 has 33 MA's), (72, 23948), (75, 23957), (79, 23981), (84, 24008), (108, 24161), (114, 24218), (115, 24236), (117, 24263), (132, 24425), (147, 24560), (148, 24569), (184, 24845), (185, 24857), (187, 24875), (192, 24932), (194, 24947), (202, 25028), (216, 25109), (218, 25118), (221, 25127), (223, 25148), (230, 25178), (232, 25202),

Gene: BlingBling_28 Start: 23386, Stop: 24945, Start Num: 53
Candidate Starts for BlingBling_28:
(47, 23326), (Start: 53 @23386 has 33 MA's), (72, 23467), (75, 23476), (79, 23500), (84, 23527), (104, 23668), (105, 23671), (108, 23680), (114, 23737), (115, 23755), (117, 23782), (147, 24079), (166, 24214), (184, 24364), (187, 24394), (190, 24439), (196, 24475), (198, 24517), (204, 24592), (219, 24685), (232, 24775), (246, 24865), (247, 24868),

Gene: Blino_29 Start: 23477, Stop: 24994, Start Num: 53
Candidate Starts for Blino_29:
(47, 23417), (Start: 53 @23477 has 33 MA's), (72, 23558), (75, 23567), (79, 23591), (84, 23618), (108, 23771), (114, 23828), (115, 23846), (117, 23873), (147, 24170), (166, 24305), (184, 24455), (187, 24485), (189, 24518), (191, 24536), (192, 24542), (196, 24566), (200, 24620), (220, 24758), (230, 24818), (233, 24848), (249, 24968),

Gene: Blueberry_30 Start: 23695, Stop: 25212, Start Num: 53
Candidate Starts for Blueberry_30:
(47, 23635), (Start: 53 @23695 has 33 MA's), (72, 23776), (79, 23809), (84, 23836), (85, 23842), (90, 23887), (91, 23893), (104, 23977), (108, 23989), (114, 24046), (115, 24064), (117, 24091), (147, 24388), (166, 24523), (170, 24541), (184, 24673), (187, 24703), (189, 24736), (192, 24760), (196, 24784), (200, 24838), (220, 24976), (230, 25036), (233, 25066), (249, 25186),

Gene: Bowser_27 Start: 22050, Stop: 23882, Start Num: 20
Candidate Starts for Bowser_27:
(14, 21918), (15, 21921), (Start: 20 @22050 has 14 MA's), (43, 22251), (71, 22428), (72, 22431), (86, 22503), (101, 22611), (110, 22665), (142, 23004), (144, 23010), (172, 23241), (184, 23340), (187, 23370), (196, 23451), (230, 23703), (233, 23733), (234, 23739), (249, 23853),

Gene: Bunker_27 Start: 22258, Stop: 24084, Start Num: 19
Candidate Starts for Bunker_27:
(7, 22063), (14, 22126), (15, 22129), (Start: 19 @22258 has 1 MA's), (41, 22459), (72, 22639), (86, 22711), (101, 22819), (114, 22918), (115, 22936), (148, 23272), (166, 23398), (172, 23449), (184, 23548), (187, 23578), (196, 23659), (215, 23827), (220, 23854), (225, 23890), (226, 23893), (230, 23914), (234, 23950), (235, 23953), (250, 24076),

Gene: Cafasso_22 Start: 19701, Stop: 21440, Start Num: 26
Candidate Starts for Cafasso_22:
(Start: 26 @19701 has 5 MA's), (38, 19782), (48, 19842), (101, 20160), (135, 20526), (137, 20538), (154, 20694), (158, 20703), (159, 20706), (164, 20751), (172, 20841), (176, 20868), (181, 20904), (193, 21030), (201, 21105), (209, 21183), (210, 21189), (241, 21375), (248, 21408),

Gene: CaptainKirk2_28 Start: 23407, Stop: 24924, Start Num: 53
Candidate Starts for CaptainKirk2_28:
(47, 23347), (Start: 53 @23407 has 33 MA's), (79, 23521), (84, 23548), (108, 23701), (114, 23758), (115, 23776), (117, 23803), (147, 24100), (166, 24235), (184, 24385), (187, 24415), (189, 24448),

(192, 24472), (196, 24496), (200, 24550), (220, 24688), (230, 24748), (233, 24778), (249, 24898),

Gene: CarolAnn_29 Start: 23476, Stop: 24993, Start Num: 53
Candidate Starts for CarolAnn_29:
(47, 23416), (Start: 53 @23476 has 33 MA's), (72, 23557), (75, 23566), (79, 23590), (84, 23617), (108, 23770), (114, 23827), (115, 23845), (117, 23872), (147, 24169), (166, 24304), (184, 24454), (187, 24484), (189, 24517), (191, 24535), (192, 24541), (196, 24565), (200, 24619), (220, 24757), (230, 24817), (233, 24847), (249, 24967),

Gene: Cashline_27 Start: 22275, Stop: 24146, Start Num: 16
Candidate Starts for Cashline_27:
(1, 22029), (8, 22137), (9, 22140), (12, 22164), (13, 22170), (Start: 16 @22275 has 8 MA's), (25, 22416), (32, 22476), (56, 22620), (61, 22629), (66, 22650), (67, 22653), (71, 22692), (77, 22725), (86, 22767), (97, 22842), (101, 22875), (138, 23223), (146, 23304), (174, 23520), (184, 23604), (187, 23634), (196, 23715), (230, 23967), (233, 23997), (234, 24003), (237, 24021), (249, 24117),

Gene: Colossa_22 Start: 18676, Stop: 20364, Start Num: 29
Candidate Starts for Colossa_22:
(Start: 29 @18676 has 1 MA's), (55, 18829), (59, 18838), (62, 18844), (97, 19054), (109, 19138), (114, 19186), (124, 19327), (126, 19357), (129, 19375), (138, 19438), (142, 19480), (146, 19516), (153, 19558), (166, 19669), (186, 19849), (187, 19852), (196, 19933), (197, 19972), (206, 20056), (220, 20131), (229, 20185), (237, 20245), (250, 20356),

Gene: Confidence_27 Start: 22438, Stop: 24309, Start Num: 16
Candidate Starts for Confidence_27:
(1, 22192), (8, 22300), (9, 22303), (12, 22327), (13, 22333), (Start: 16 @22438 has 8 MA's), (25, 22579), (32, 22639), (56, 22783), (66, 22813), (67, 22816), (71, 22855), (77, 22888), (86, 22930), (97, 23005), (110, 23092), (142, 23431), (144, 23437), (146, 23467), (172, 23668), (184, 23767), (187, 23797), (196, 23878), (198, 23920), (202, 23947), (230, 24130), (233, 24160), (234, 24166), (249, 24280),

Gene: Coriander_28 Start: 23232, Stop: 25115, Start Num: 20
Candidate Starts for Coriander_28:
(2, 22944), (4, 23001), (6, 23016), (14, 23097), (15, 23100), (Start: 20 @23232 has 14 MA's), (24, 23316), (34, 23409), (36, 23418), (41, 23430), (46, 23448), (71, 23619), (72, 23622), (86, 23694), (95, 23757), (101, 23802), (110, 23856), (114, 23901), (122, 24006), (123, 24036), (147, 24246), (150, 24270), (162, 24330), (166, 24381), (171, 24405), (172, 24432), (184, 24531), (187, 24561), (190, 24606), (196, 24642), (198, 24684), (204, 24759), (219, 24855), (232, 24945), (236, 24969), (247, 25038),

Gene: DatBoi_38 Start: 33647, Stop: 35323, Start Num: 27
Candidate Starts for DatBoi_38:
(Start: 27 @33647 has 4 MA's), (30, 33677), (52, 33788), (80, 33920), (101, 34061), (108, 34103), (126, 34343), (128, 34358), (131, 34367), (137, 34424), (149, 34526), (154, 34580), (158, 34589), (159, 34592), (164, 34637), (172, 34727), (176, 34754), (181, 34790), (182, 34793), (193, 34916), (201, 34991), (214, 35084), (244, 35267), (248, 35291),

Gene: Delian_29 Start: 23405, Stop: 24922, Start Num: 53
Candidate Starts for Delian_29:
(47, 23345), (Start: 53 @23405 has 33 MA's), (79, 23519), (84, 23546), (108, 23699), (114, 23756), (115, 23774), (117, 23801), (147, 24098), (166, 24233), (184, 24383), (187, 24413), (189, 24446), (192, 24470), (196, 24494), (200, 24548), (220, 24686), (230, 24746), (233, 24776), (249, 24896),

Gene: DirtyBoi_29 Start: 23139, Stop: 24968, Start Num: 20
Candidate Starts for DirtyBoi_29:
(4, 22908), (6, 22923), (15, 23007), (Start: 20 @23139 has 14 MA's), (24, 23223), (34, 23316), (36, 23325), (41, 23337), (46, 23355), (49, 23403), (71, 23526), (72, 23529), (86, 23601), (92, 23652), (102, 23709), (111, 23760), (114, 23796), (138, 24045), (146, 24126), (150, 24153), (160, 24207), (172, 24327), (184, 24426), (187, 24456), (191, 24507), (195, 24534), (196, 24537), (202, 24606), (230, 24789), (233, 24819), (234, 24825), (237, 24843), (249, 24939),

Gene: Dmitri_28 Start: 23288, Stop: 25117, Start Num: 20
Candidate Starts for Dmitri_28:
(4, 23057), (6, 23072), (15, 23156), (Start: 20 @23288 has 14 MA's), (22, 23345), (34, 23465), (36, 23474), (41, 23486), (46, 23504), (71, 23675), (72, 23678), (82, 23729), (86, 23750), (102, 23858), (111, 23909), (114, 23945), (124, 24086), (144, 24242), (145, 24260), (157, 24347), (161, 24359), (184, 24575), (187, 24605), (191, 24656), (195, 24683), (205, 24800), (220, 24884), (223, 24908), (226, 24923), (228, 24932), (229, 24938), (242, 25040),

Gene: Eyes_27 Start: 22143, Stop: 23975, Start Num: 20
Candidate Starts for Eyes_27:
(10, 21954), (14, 22011), (15, 22014), (Start: 20 @22143 has 14 MA's), (43, 22344), (71, 22521), (86, 22596), (92, 22647), (97, 22671), (101, 22704), (116, 22830), (142, 23097), (144, 23103), (146, 23133), (172, 23334), (184, 23433), (187, 23463), (196, 23544), (230, 23796), (234, 23832), (237, 23850), (249, 23946),

Gene: Eyre_24 Start: 20262, Stop: 21836, Start Num: 44
Candidate Starts for Eyre_24:
(Start: 44 @20262 has 1 MA's), (78, 20442), (81, 20451), (97, 20553), (110, 20640), (114, 20685), (115, 20703), (119, 20763), (139, 20943), (147, 21030), (148, 21039), (166, 21165), (172, 21216), (184, 21315), (185, 21327), (187, 21345), (194, 21417), (202, 21498), (216, 21579), (218, 21588), (221, 21597), (223, 21618), (230, 21648), (232, 21672),

Gene: Fenry_27 Start: 23105, Stop: 24622, Start Num: 53
Candidate Starts for Fenry_27:
(47, 23045), (Start: 53 @23105 has 33 MA's), (72, 23186), (75, 23195), (79, 23219), (84, 23246), (108, 23399), (114, 23456), (115, 23474), (147, 23798), (166, 23933), (184, 24083), (187, 24113), (189, 24146), (192, 24170), (196, 24194), (200, 24248), (220, 24386), (230, 24446), (233, 24476), (249, 24596),

Gene: Frokostdame_28 Start: 23349, Stop: 24866, Start Num: 53
Candidate Starts for Frokostdame_28:
(47, 23289), (Start: 53 @23349 has 33 MA's), (72, 23430), (75, 23439), (79, 23463), (84, 23490), (85, 23496), (90, 23541), (108, 23643), (114, 23700), (115, 23718), (117, 23745), (147, 24042), (166, 24177), (170, 24195), (184, 24327), (187, 24357), (189, 24390), (192, 24414), (196, 24438), (200, 24492), (220, 24630), (230, 24690), (233, 24720), (249, 24840),

Gene: GEazy_27 Start: 22164, Stop: 23993, Start Num: 20
Candidate Starts for GEazy_27:
(14, 22032), (15, 22035), (Start: 20 @22164 has 14 MA's), (24, 22242), (43, 22365), (86, 22617), (101, 22725), (102, 22737), (138, 23073), (146, 23154), (161, 23241), (172, 23355), (184, 23451), (187, 23481), (189, 23514), (196, 23562), (198, 23604), (228, 23802), (230, 23814), (234, 23850), (237, 23868), (249, 23964),

Gene: Gambino_30 Start: 23695, Stop: 25212, Start Num: 53
Candidate Starts for Gambino_30:

(47, 23635), (Start: 53 @23695 has 33 MA's), (72, 23776), (79, 23809), (84, 23836), (85, 23842), (90, 23887), (91, 23893), (104, 23977), (108, 23989), (114, 24046), (115, 24064), (117, 24091), (147, 24388), (166, 24523), (170, 24541), (184, 24673), (187, 24703), (189, 24736), (192, 24760), (196, 24784), (200, 24838), (220, 24976), (230, 25036), (233, 25066), (249, 25186),

Gene: Guacamole_28 Start: 23390, Stop: 24949, Start Num: 53
Candidate Starts for Guacamole_28:
(47, 23330), (Start: 53 @23390 has 33 MA's), (79, 23504), (84, 23531), (93, 23597), (104, 23672), (114, 23741), (124, 23879), (132, 23948), (147, 24083), (148, 24092), (166, 24218), (184, 24368), (187, 24398), (190, 24443), (196, 24479), (198, 24521), (204, 24596), (219, 24689), (232, 24779), (247, 24872),

Gene: HannahD_27 Start: 22164, Stop: 23993, Start Num: 20
Candidate Starts for HannahD_27:
(14, 22032), (15, 22035), (Start: 20 @22164 has 14 MA's), (24, 22242), (43, 22365), (86, 22617), (101, 22725), (102, 22737), (138, 23073), (146, 23154), (161, 23241), (172, 23355), (184, 23451), (187, 23481), (189, 23514), (196, 23562), (198, 23604), (228, 23802), (230, 23814), (234, 23850), (237, 23868), (249, 23964),

Gene: Hedwig_29 Start: 23135, Stop: 25012, Start Num: 20
Candidate Starts for Hedwig_29:
(4, 22904), (6, 22919), (11, 22955), (14, 23000), (15, 23003), (Start: 20 @23135 has 14 MA's), (24, 23219), (34, 23312), (41, 23333), (46, 23351), (72, 23525), (86, 23597), (95, 23660), (101, 23705), (110, 23759), (114, 23804), (115, 23822), (166, 24281), (172, 24332), (184, 24431), (187, 24461), (190, 24506), (196, 24542), (198, 24584), (204, 24659), (219, 24752), (232, 24842), (237, 24872), (247, 24935),

Gene: Hitter_28 Start: 23386, Stop: 24903, Start Num: 53
Candidate Starts for Hitter_28:
(47, 23326), (Start: 53 @23386 has 33 MA's), (79, 23500), (84, 23527), (101, 23638), (114, 23737), (148, 24088), (166, 24214), (184, 24364), (187, 24394), (189, 24427), (192, 24451), (196, 24475), (200, 24529), (220, 24667), (230, 24727), (233, 24757), (249, 24877),

Gene: Jablanski_29 Start: 23520, Stop: 25391, Start Num: 16
Candidate Starts for Jablanski_29:
(8, 23382), (9, 23385), (12, 23409), (13, 23415), (Start: 16 @23520 has 8 MA's), (18, 23535), (25, 23661), (32, 23721), (56, 23865), (66, 23895), (67, 23898), (71, 23937), (77, 23970), (86, 24012), (97, 24087), (101, 24120), (110, 24174), (142, 24513), (144, 24519), (146, 24549), (160, 24630), (172, 24750), (184, 24849), (187, 24879), (189, 24912), (192, 24936), (196, 24960), (198, 25002), (220, 25152), (230, 25212), (233, 25242), (234, 25248), (236, 25260), (249, 25362),

Gene: Jalammah_30 Start: 24180, Stop: 25697, Start Num: 53
Candidate Starts for Jalammah_30:
(47, 24120), (Start: 53 @24180 has 33 MA's), (72, 24261), (79, 24294), (84, 24321), (101, 24432), (114, 24531), (117, 24576), (147, 24873), (166, 25008), (184, 25158), (187, 25188), (189, 25221), (192, 25245), (196, 25269), (200, 25323), (220, 25461), (230, 25521), (233, 25551), (249, 25671),

Gene: JasperJr_28 Start: 23390, Stop: 24949, Start Num: 53
Candidate Starts for JasperJr_28:
(47, 23330), (Start: 53 @23390 has 33 MA's), (79, 23504), (84, 23531), (93, 23597), (104, 23672), (114, 23741), (124, 23879), (132, 23948), (147, 24083), (148, 24092), (166, 24218), (184, 24368), (187, 24398), (190, 24443), (196, 24479), (198, 24521), (204, 24596), (219, 24689), (232, 24779), (247, 24872),

Gene: JuJu_29 Start: 23449, Stop: 24948, Start Num: 53
Candidate Starts for JuJu_29:
(17, 23119), (47, 23389), (Start: 53 @23449 has 33 MA's), (72, 23530), (79, 23563), (84, 23590), (91, 23647), (114, 23782), (138, 24037), (144, 24088), (155, 24181), (166, 24256), (170, 24274), (172, 24307), (179, 24367), (184, 24406), (187, 24436), (188, 24457), (192, 24493), (196, 24517), (198, 24559), (228, 24757), (230, 24769), (234, 24805), (249, 24919), (250, 24937),

Gene: LittleMunchkin_29 Start: 29134, Stop: 30714, Start Num: 45
Candidate Starts for LittleMunchkin_29:
(Start: 45 @29134 has 4 MA's), (50, 29191), (51, 29203), (58, 29236), (63, 29248), (64, 29251), (68, 29269), (73, 29302), (77, 29326), (88, 29386), (90, 29407), (101, 29461), (102, 29473), (105, 29494), (110, 29515), (122, 29656), (136, 29794), (137, 29800), (171, 30052), (187, 30211), (188, 30232), (192, 30268), (194, 30283), (199, 30340), (208, 30436), (217, 30475), (220, 30487), (224, 30514), (229, 30541), (238, 30613), (243, 30634), (245, 30640), (249, 30688), (250, 30706),

Gene: LonelyBoi_28 Start: 23140, Stop: 25011, Start Num: 16
Candidate Starts for LonelyBoi_28:
(8, 23002), (9, 23005), (12, 23029), (13, 23035), (Start: 16 @23140 has 8 MA's), (25, 23281), (32, 23341), (56, 23485), (66, 23515), (67, 23518), (71, 23557), (77, 23590), (86, 23632), (97, 23707), (110, 23794), (142, 24133), (144, 24139), (146, 24169), (172, 24370), (184, 24469), (187, 24499), (196, 24580), (202, 24649), (230, 24832), (233, 24862), (234, 24868), (249, 24982),

Gene: Lysidious_29 Start: 23907, Stop: 25466, Start Num: 53
Candidate Starts for Lysidious_29:
(47, 23847), (Start: 53 @23907 has 33 MA's), (72, 23988), (79, 24021), (84, 24048), (104, 24189), (105, 24192), (108, 24201), (111, 24222), (114, 24258), (115, 24276), (117, 24303), (147, 24600), (148, 24609), (166, 24735), (184, 24885), (187, 24915), (190, 24960), (196, 24996), (198, 25038), (204, 25113), (219, 25206), (232, 25296), (247, 25389),

Gene: MagicMan_27 Start: 22464, Stop: 24296, Start Num: 20
Candidate Starts for MagicMan_27:
(14, 22332), (15, 22335), (Start: 20 @22464 has 14 MA's), (72, 22845), (86, 22917), (92, 22968), (97, 22992), (101, 23025), (116, 23151), (142, 23418), (144, 23424), (146, 23454), (172, 23655), (184, 23754), (187, 23784), (195, 23862), (196, 23865), (198, 23907), (230, 24117), (234, 24153), (237, 24171), (249, 24267),

Gene: Malachai_29 Start: 23867, Stop: 25366, Start Num: 53
Candidate Starts for Malachai_29:
(47, 23807), (Start: 53 @23867 has 33 MA's), (72, 23948), (75, 23957), (79, 23981), (84, 24008), (108, 24161), (114, 24218), (115, 24236), (117, 24263), (132, 24425), (147, 24560), (148, 24569), (184, 24845), (185, 24857), (187, 24875), (192, 24932), (194, 24947), (202, 25028), (216, 25109), (218, 25118), (221, 25127), (223, 25148), (230, 25178), (232, 25202),

Gene: Melba_28 Start: 23386, Stop: 24900, Start Num: 53
Candidate Starts for Melba_28:
(47, 23326), (Start: 53 @23386 has 33 MA's), (79, 23500), (84, 23527), (108, 23680), (114, 23737), (115, 23755), (117, 23782), (147, 24079), (148, 24088), (166, 24214), (184, 24364), (187, 24394), (190, 24439), (196, 24475), (198, 24517), (212, 24643), (226, 24712), (228, 24721), (234, 24769),

Gene: Mellie_27 Start: 23147, Stop: 24664, Start Num: 53
Candidate Starts for Mellie_27:

(47, 23087), (Start: 53 @23147 has 33 MA's), (72, 23228), (75, 23237), (79, 23261), (84, 23288), (108, 23441), (114, 23498), (115, 23516), (147, 23840), (166, 23975), (184, 24125), (187, 24155), (189, 24188), (192, 24212), (196, 24236), (200, 24290), (220, 24428), (230, 24488), (233, 24518), (249, 24638),

Gene: MintFen_28 Start: 23386, Stop: 24900, Start Num: 53
Candidate Starts for MintFen_28:
(47, 23326), (Start: 53 @23386 has 33 MA's), (79, 23500), (84, 23527), (108, 23680), (114, 23737), (115, 23755), (117, 23782), (147, 24079), (148, 24088), (166, 24214), (184, 24364), (187, 24394), (190, 24439), (196, 24475), (198, 24517), (212, 24643), (226, 24712), (228, 24721), (234, 24769),

Gene: MissRona_30 Start: 23695, Stop: 25212, Start Num: 53
Candidate Starts for MissRona_30:
(47, 23635), (Start: 53 @23695 has 33 MA's), (72, 23776), (79, 23809), (84, 23836), (85, 23842), (90, 23887), (91, 23893), (104, 23977), (108, 23989), (114, 24046), (115, 24064), (117, 24091), (147, 24388), (166, 24523), (170, 24541), (184, 24673), (187, 24703), (189, 24736), (192, 24760), (196, 24784), (200, 24838), (220, 24976), (230, 25036), (233, 25066), (249, 25186),

Gene: ModicumRichard_22 Start: 19702, Stop: 21441, Start Num: 26
Candidate Starts for ModicumRichard_22:
(Start: 26 @19702 has 5 MA's), (38, 19783), (48, 19843), (101, 20161), (135, 20527), (137, 20539), (154, 20695), (158, 20704), (159, 20707), (164, 20752), (172, 20842), (176, 20869), (181, 20905), (193, 21031), (201, 21106), (209, 21184), (210, 21190), (241, 21376), (248, 21409),

Gene: Mollymur_38 Start: 34128, Stop: 35807, Start Num: 27
Candidate Starts for Mollymur_38:
(Start: 27 @34128 has 4 MA's), (31, 34158), (40, 34185), (52, 34269), (69, 34359), (80, 34401), (110, 34599), (114, 34644), (142, 34932), (170, 35136), (172, 35169), (174, 35184), (175, 35199), (184, 35271), (187, 35301), (195, 35379), (196, 35382), (199, 35430), (230, 35637), (236, 35685), (238, 35703), (245, 35733),

Gene: Moonflower_28 Start: 23236, Stop: 25068, Start Num: 20
Candidate Starts for Moonflower_28:
(4, 23005), (6, 23020), (11, 23056), (15, 23104), (Start: 20 @23236 has 14 MA's), (24, 23320), (34, 23413), (36, 23422), (41, 23434), (46, 23452), (56, 23551), (71, 23623), (72, 23626), (86, 23698), (92, 23749), (95, 23761), (110, 23860), (114, 23905), (115, 23923), (147, 24247), (148, 24256), (166, 24382), (184, 24532), (187, 24562), (190, 24607), (196, 24643), (198, 24685), (214, 24811), (226, 24880), (228, 24889), (234, 24937),

Gene: Morgana_21 Start: 19123, Stop: 20847, Start Num: 26
Candidate Starts for Morgana_21:
(Start: 26 @19123 has 5 MA's), (48, 19264), (83, 19459), (87, 19486), (98, 19558), (138, 19936), (139, 19939), (170, 20176), (172, 20209), (183, 20296), (184, 20311), (187, 20341), (196, 20422), (220, 20617), (238, 20743), (245, 20773),

Gene: ObLaDi_22 Start: 19681, Stop: 21420, Start Num: 26
Candidate Starts for ObLaDi_22:
(Start: 26 @19681 has 5 MA's), (38, 19762), (48, 19822), (101, 20140), (135, 20506), (137, 20518), (154, 20674), (158, 20683), (159, 20686), (163, 20725), (164, 20731), (172, 20821), (176, 20848), (181, 20884), (193, 21010), (201, 21085), (209, 21163), (210, 21169), (241, 21355), (248, 21388),

Gene: Obliviate_28 Start: 23302, Stop: 24801, Start Num: 53
Candidate Starts for Obliviate_28:

(47, 23242), (Start: 53 @23302 has 33 MA's), (72, 23383), (79, 23416), (84, 23443), (91, 23500), (108, 23578), (114, 23635), (138, 23890), (155, 24034), (166, 24109), (169, 24124), (170, 24127), (184, 24259), (187, 24289), (195, 24367), (205, 24484), (220, 24568), (223, 24592), (225, 24604), (226, 24607), (228, 24616), (229, 24622), (230, 24628),

Gene: Octobien14_30 Start: 24971, Stop: 26458, Start Num: 60
Candidate Starts for Octobien14_30:
(42, 24869), (54, 24959), (57, 24965), (Start: 60 @24971 has 1 MA's), (65, 24986), (76, 25043), (94, 25148), (96, 25157), (100, 25184), (103, 25205), (106, 25217), (112, 25253), (114, 25283), (118, 25352), (119, 25367), (120, 25379), (121, 25382), (124, 25430), (125, 25433), (130, 25484), (136, 25532), (137, 25538), (140, 25556), (142, 25586), (145, 25610), (146, 25622), (151, 25655), (152, 25661), (166, 25772), (167, 25775), (168, 25778), (173, 25835), (177, 25865), (183, 25907), (184, 25922), (187, 25952), (192, 26009), (196, 26033), (200, 26087), (202, 26102), (226, 26267), (232, 26312), (250, 26453),

Gene: Opie_27 Start: 22488, Stop: 24320, Start Num: 20
Candidate Starts for Opie_27:
(5, 22263), (10, 22299), (14, 22356), (15, 22359), (Start: 20 @22488 has 14 MA's), (71, 22866), (72, 22869), (86, 22941), (92, 22992), (97, 23016), (101, 23049), (116, 23175), (142, 23442), (143, 23445), (144, 23448), (146, 23478), (156, 23550), (172, 23679), (184, 23778), (187, 23808), (195, 23886), (196, 23889), (198, 23931), (230, 24141), (234, 24177), (237, 24195), (249, 24291),

Gene: PhrostedPhlake_30 Start: 24079, Stop: 25596, Start Num: 53
Candidate Starts for PhrostedPhlake_30:
(47, 24019), (Start: 53 @24079 has 33 MA's), (79, 24193), (84, 24220), (108, 24373), (114, 24430), (115, 24448), (117, 24475), (147, 24772), (166, 24907), (184, 25057), (187, 25087), (189, 25120), (192, 25144), (196, 25168), (200, 25222), (220, 25360), (230, 25420), (233, 25450), (249, 25570),

Gene: Pipp_28 Start: 23377, Stop: 24876, Start Num: 53
Candidate Starts for Pipp_28:
(47, 23317), (Start: 53 @23377 has 33 MA's), (72, 23458), (79, 23491), (84, 23518), (91, 23575), (108, 23653), (114, 23710), (138, 23965), (144, 24016), (155, 24109), (169, 24199), (170, 24202), (172, 24235), (184, 24334), (187, 24364), (195, 24442), (205, 24559), (220, 24643), (223, 24667), (225, 24679), (226, 24682), (228, 24691), (229, 24697), (230, 24703),

Gene: Posh_29 Start: 23373, Stop: 25244, Start Num: 16
Candidate Starts for Posh_29:
(8, 23235), (9, 23238), (12, 23262), (13, 23268), (Start: 16 @23373 has 8 MA's), (18, 23388), (25, 23514), (32, 23574), (56, 23718), (66, 23748), (67, 23751), (71, 23790), (77, 23823), (86, 23865), (97, 23940), (101, 23973), (110, 24027), (142, 24366), (144, 24372), (146, 24402), (172, 24603), (184, 24702), (187, 24732), (189, 24765), (192, 24789), (196, 24813), (198, 24855), (220, 25005), (230, 25065), (234, 25101), (236, 25113), (249, 25215),

Gene: Pytheas_29 Start: 23519, Stop: 25390, Start Num: 16
Candidate Starts for Pytheas_29:
(8, 23381), (9, 23384), (12, 23408), (13, 23414), (Start: 16 @23519 has 8 MA's), (18, 23534), (25, 23660), (32, 23720), (56, 23864), (66, 23894), (67, 23897), (71, 23936), (77, 23969), (86, 24011), (97, 24086), (101, 24119), (110, 24173), (142, 24512), (144, 24518), (146, 24548), (160, 24629), (172, 24749), (184, 24848), (187, 24878), (189, 24911), (192, 24935), (196, 24959), (198, 25001), (220, 25151), (230, 25211), (233, 25241), (234, 25247), (236, 25259), (249, 25361),

Gene: RayTheFireFly_28 Start: 23264, Stop: 25141, Start Num: 20
Candidate Starts for RayTheFireFly_28:

(15, 23132), (Start: 20 @23264 has 14 MA's), (24, 23348), (34, 23441), (41, 23462), (46, 23480), (72, 23654), (86, 23726), (95, 23789), (110, 23888), (114, 23933), (115, 23951), (166, 24410), (172, 24461), (184, 24560), (187, 24590), (190, 24635), (196, 24671), (198, 24713), (219, 24881), (232, 24971), (237, 25001), (247, 25064),

Gene: Ruthy_22 Start: 19584, Stop: 21350, Start Num: 21
Candidate Starts for Ruthy_22:
(Start: 21 @19584 has 2 MA's), (35, 19731), (37, 19740), (82, 19968), (86, 19989), (95, 20052), (101, 20097), (102, 20109), (104, 20127), (110, 20151), (114, 20196), (122, 20301), (138, 20445), (141, 20478), (142, 20490), (143, 20493), (144, 20496), (146, 20526), (150, 20553), (166, 20676), (184, 20826), (187, 20856), (192, 20913), (196, 20937), (198, 20979), (202, 21009), (203, 21039), (207, 21060), (213, 21090), (216, 21099), (218, 21108), (222, 21141), (223, 21144), (227, 21162), (231, 21183), (239, 21252), (240, 21258), (245, 21276),

Gene: Samba_28 Start: 23464, Stop: 24981, Start Num: 53
Candidate Starts for Samba_28:
(47, 23404), (Start: 53 @23464 has 33 MA's), (79, 23578), (84, 23605), (101, 23716), (114, 23815), (148, 24166), (166, 24292), (184, 24442), (187, 24472), (189, 24505), (192, 24529), (196, 24553), (200, 24607), (220, 24745), (230, 24805), (233, 24835), (249, 24955),

Gene: Schnabeltier_27 Start: 22465, Stop: 24297, Start Num: 20
Candidate Starts for Schnabeltier_27:
(14, 22333), (15, 22336), (Start: 20 @22465 has 14 MA's), (72, 22846), (86, 22918), (92, 22969), (97, 22993), (101, 23026), (116, 23152), (142, 23419), (144, 23425), (146, 23455), (172, 23656), (184, 23755), (187, 23785), (195, 23863), (196, 23866), (198, 23908), (230, 24118), (234, 24154), (237, 24172), (249, 24268),

Gene: Sisko_27 Start: 26564, Stop: 28150, Start Num: 45
Candidate Starts for Sisko_27:
(Start: 45 @26564 has 4 MA's), (50, 26621), (51, 26633), (63, 26678), (73, 26732), (88, 26819), (102, 26906), (110, 26948), (126, 27155), (127, 27167), (137, 27233), (166, 27461), (171, 27485), (172, 27512), (174, 27527), (187, 27644), (188, 27665), (192, 27701), (199, 27773), (217, 27908), (220, 27920), (224, 27947), (238, 28046), (245, 28076), (249, 28124), (250, 28142),

Gene: SpeedDemon_390 Start: 34766, Stop: 36442, Start Num: 27
Candidate Starts for SpeedDemon_390:
(Start: 27 @34766 has 4 MA's), (30, 34796), (39, 34823), (52, 34907), (80, 35039), (108, 35222), (126, 35462), (131, 35486), (137, 35543), (154, 35699), (158, 35708), (159, 35711), (164, 35756), (172, 35846), (176, 35873), (181, 35909), (182, 35912), (193, 36035), (201, 36110), (214, 36203), (244, 36386), (248, 36410),

Gene: TaronosaurasRx_27 Start: 22496, Stop: 24328, Start Num: 20
Candidate Starts for TaronosaurasRx_27:
(14, 22364), (15, 22367), (Start: 20 @22496 has 14 MA's), (71, 22874), (72, 22877), (86, 22949), (101, 23057), (110, 23111), (142, 23450), (144, 23456), (146, 23486), (150, 23513), (172, 23687), (184, 23786), (187, 23816), (196, 23897), (202, 23966), (230, 24149), (233, 24179), (234, 24185), (249, 24299),

Gene: UmaThurman_28 Start: 23511, Stop: 25025, Start Num: 53
Candidate Starts for UmaThurman_28:
(47, 23451), (Start: 53 @23511 has 33 MA's), (72, 23592), (79, 23625), (84, 23652), (90, 23703), (101, 23763), (104, 23793), (114, 23862), (147, 24207), (166, 24342), (172, 24393), (184, 24492), (187, 24522), (192, 24579), (196, 24603), (215, 24771), (225, 24834), (226, 24837), (228, 24846), (229,

24852), (234, 24894), (235, 24897),

Gene: Utz_28 Start: 23378, Stop: 24877, Start Num: 53
Candidate Starts for Utz_28:
(47, 23318), (Start: 53 @23378 has 33 MA's), (72, 23459), (79, 23492), (84, 23519), (91, 23576), (108, 23654), (114, 23711), (138, 23966), (144, 24017), (155, 24110), (169, 24200), (170, 24203), (172, 24236), (184, 24335), (187, 24365), (195, 24443), (205, 24560), (220, 24644), (223, 24668), (225, 24680), (226, 24683), (228, 24692), (229, 24698), (230, 24704),

Gene: VanLee_22 Start: 18690, Stop: 20378, Start Num: 29
Candidate Starts for VanLee_22:
(Start: 29 @18690 has 1 MA's), (55, 18843), (59, 18852), (62, 18858), (95, 19059), (99, 19092), (113, 19173), (124, 19341), (138, 19452), (142, 19494), (146, 19530), (150, 19557), (166, 19683), (187, 19866), (196, 19947), (206, 20070), (220, 20145), (229, 20199), (237, 20259), (238, 20271),

Gene: Walrus_30 Start: 23926, Stop: 25488, Start Num: 53
Candidate Starts for Walrus_30:
(47, 23866), (Start: 53 @23926 has 33 MA's), (72, 24007), (79, 24040), (84, 24067), (89, 24106), (93, 24133), (108, 24220), (114, 24277), (115, 24295), (117, 24322), (148, 24628), (166, 24754), (184, 24904), (187, 24934), (196, 25015), (204, 25132), (214, 25204), (219, 25228), (220, 25234), (223, 25258), (232, 25318), (236, 25342), (237, 25348), (247, 25411),

Gene: Wisp_27 Start: 23096, Stop: 24655, Start Num: 53
Candidate Starts for Wisp_27:
(47, 23036), (Start: 53 @23096 has 33 MA's), (79, 23210), (84, 23237), (108, 23390), (114, 23447), (115, 23465), (117, 23492), (147, 23789), (148, 23798), (166, 23924), (184, 24074), (187, 24104), (190, 24149), (196, 24185), (198, 24227), (204, 24302), (219, 24395), (232, 24485), (246, 24575), (247, 24578),

Gene: Wrigley_29 Start: 23270, Stop: 25141, Start Num: 16
Candidate Starts for Wrigley_29:
(8, 23132), (9, 23135), (12, 23159), (13, 23165), (Start: 16 @23270 has 8 MA's), (18, 23285), (25, 23411), (32, 23471), (56, 23615), (66, 23645), (67, 23648), (71, 23687), (77, 23720), (86, 23762), (97, 23837), (101, 23870), (110, 23924), (142, 24263), (144, 24269), (146, 24299), (172, 24500), (184, 24599), (187, 24629), (189, 24662), (192, 24686), (196, 24710), (198, 24752), (220, 24902), (230, 24962), (234, 24998), (236, 25010), (249, 25112),

Gene: Yago84_27 Start: 26638, Stop: 28224, Start Num: 45
Candidate Starts for Yago84_27:
(Start: 45 @26638 has 4 MA's), (50, 26695), (51, 26707), (63, 26752), (73, 26806), (88, 26893), (102, 26980), (110, 27022), (126, 27229), (127, 27241), (137, 27307), (166, 27535), (171, 27559), (172, 27586), (174, 27601), (187, 27718), (188, 27739), (192, 27775), (217, 27982), (220, 27994), (224, 28021), (238, 28120), (245, 28150), (249, 28198), (250, 28216),

Gene: ZAYM_28 Start: 22965, Stop: 24797, Start Num: 20
Candidate Starts for ZAYM_28:
(14, 22833), (15, 22836), (Start: 20 @22965 has 14 MA's), (71, 23343), (72, 23346), (86, 23418), (101, 23526), (110, 23580), (142, 23919), (144, 23925), (146, 23955), (150, 23982), (172, 24156), (184, 24255), (187, 24285), (196, 24366), (202, 24435), (230, 24618), (233, 24648), (234, 24654), (249, 24768),

Gene: Zarbodnamra_28 Start: 23385, Stop: 24944, Start Num: 53
Candidate Starts for Zarbodnamra_28:

(47, 23325), (Start: 53 @23385 has 33 MA's), (72, 23466), (79, 23499), (84, 23526), (104, 23667), (105, 23670), (108, 23679), (111, 23700), (114, 23736), (115, 23754), (147, 24078), (148, 24087), (166, 24213), (184, 24363), (187, 24393), (190, 24438), (196, 24474), (198, 24516), (204, 24591), (219, 24684), (232, 24774), (246, 24864), (247, 24867),

Gene: ZiggyZoo_28 Start: 23302, Stop: 24819, Start Num: 53
Candidate Starts for ZiggyZoo_28:
(47, 23242), (Start: 53 @23302 has 33 MA's), (72, 23383), (75, 23392), (79, 23416), (84, 23443), (93, 23509), (108, 23596), (114, 23653), (115, 23671), (117, 23698), (166, 24130), (184, 24280), (187, 24310), (189, 24343), (192, 24367), (196, 24391), (200, 24445), (220, 24583), (230, 24643), (233, 24673), (249, 24793),

Gene: Zilla_28 Start: 23517, Stop: 24917, Start Num: 79
Candidate Starts for Zilla_28:
(47, 23343), (Start: 53 @23403 has 33 MA's), (79, 23517), (84, 23544), (108, 23697), (114, 23754), (115, 23772), (117, 23799), (147, 24096), (148, 24105), (166, 24231), (184, 24381), (187, 24411), (190, 24456), (196, 24492), (198, 24534), (212, 24660), (226, 24729), (228, 24738), (234, 24786),