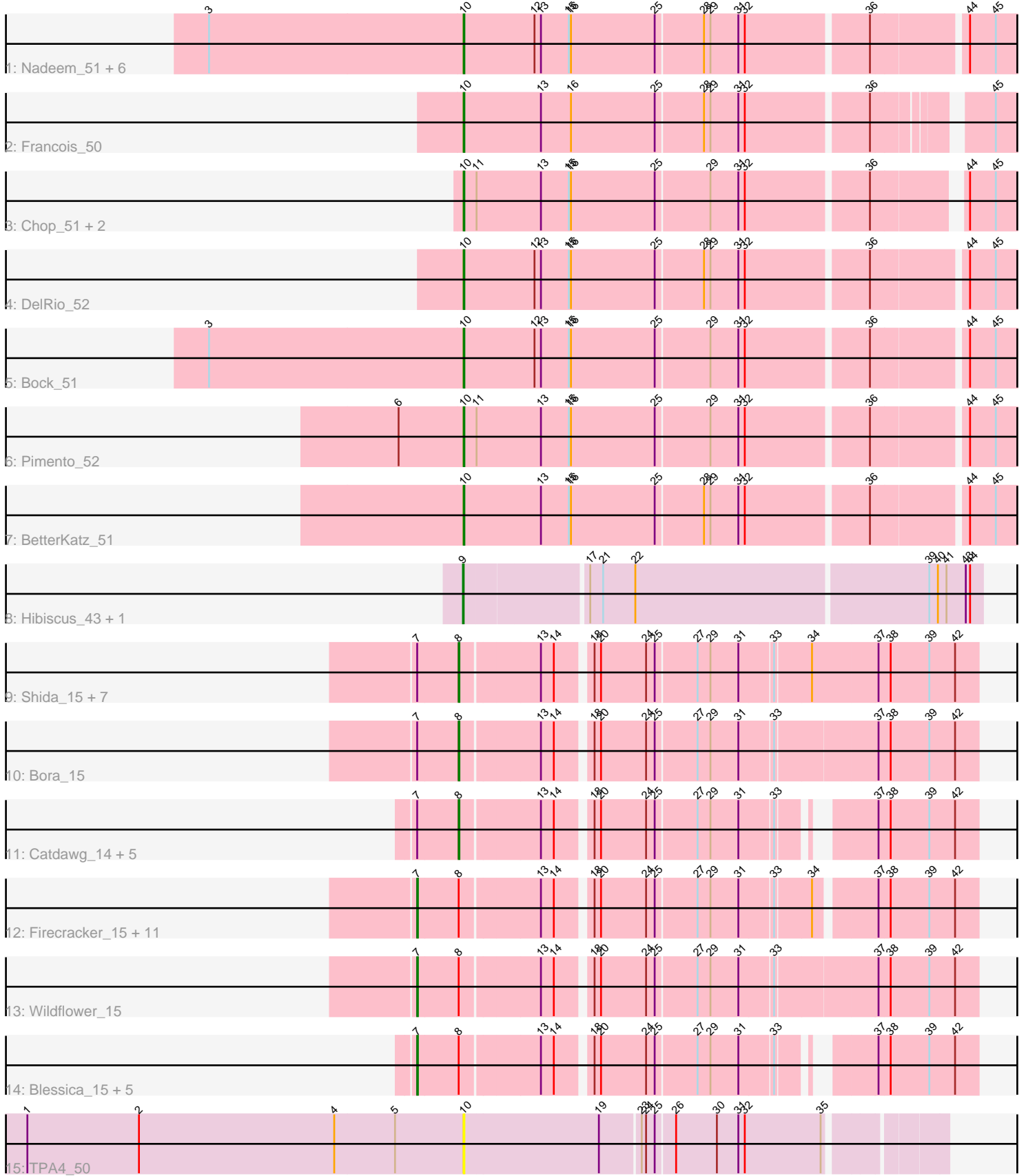


Pham 296651



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 296651 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296651 has 52 members, 5 are drafts.

Phages represented in each track:

- Track 1 : Nadeem_51, WheatThin_50, Parada_51, Mulch_51, Brylie_51, Ayotoya_51, NancyRae_50
- Track 2 : Francois_50
- Track 3 : Chop_51, Hamood_51, GrandSlam_51
- Track 4 : DelRio_52
- Track 5 : Bock_51
- Track 6 : Pimento_52
- Track 7 : BetterKatz_51
- Track 8 : Hibiscus_43, Heinz_42
- Track 9 : Shida_15, Corndog_17, Wogge42_15, Vorrps_15, Alkhayr_15, Schuy_16, Mori_15, NiebruSaylor_15
- Track 10 : Bora_15
- Track 11 : Catdawg_14, KingPhillip3_14, JangDynasty_14, YoyoKar_15, Imara_15, FoulBall_14
- Track 12 : Firecracker_15, Ashwin_16, Dylan_15, Krili_15, YungJamal_16, Murai_15, Ryadel_17, Zakhe101_16, Smooch_16, MadKillah_16, Winget_15, Vagabond_15
- Track 13 : Wildflower_15
- Track 14 : Blessica_15, Familton_15, TelAviv_14, SchoolBus_14, Idergollasper_14, Zebo_14
- Track 15 : TPA4_50

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

The start number called the most often in the published annotations is 7, it was called in 19 of the 47 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ashwin_16, Blessica_15, Dylan_15, Familton_15, Firecracker_15, Idergollasper_14, Krili_15, MadKillah_16, Murai_15, Ryadel_17, SchoolBus_14, Smooch_16, TelAviv_14, Vagabond_15, Wildflower_15, Winget_15, YungJamal_16, Zakhe101_16, Zebo_14,

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

- Alkhayr_15, Bora_15, Catdawg_14, Corndog_17, FoulBall_14, Imara_15, JangDynasty_14, KingPhillip3_14, Mori_15, NiebruSaylor_15, Schuy_16, Shida_15, Vorrrps_15, Wogge42_15, YoyoKar_15,

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

- Ayotoya_51, BetterKatz_51, Bock_51, Brylie_51, Chop_51, DelRio_52, Francois_50, GrandSlam_51, Hamood_51, Heinz_42, Hibiscus_43, Mulch_51, Nadeem_51, NancyRae_50, Parada_51, Pimento_52, TPA4_50, WheatThin_50,

Summary by start number:

Start 7:

- Found in 34 of 52 (65.4%) of genes in pham
- Manual Annotations of this start: 19 of 47
- Called 55.9% of time when present
- Phage (with cluster) where this start called: Ashwin_16 (O), Blessica_15 (O), Dylan_15 (O), Familton_15 (O), Firecracker_15 (O), Idergollasper_14 (O), Kriili_15 (O), MadKillah_16 (O), Murai_15 (O), Ryadel_17 (O), SchoolBus_14 (O), Smooch_16 (O), TelAviv_14 (O), Vagabond_15 (O), Wildflower_15 (O), Winget_15 (O), YungJamal_16 (O), Zakhe101_16 (O), Zebo_14 (O),

Start 8:

- Found in 34 of 52 (65.4%) of genes in pham
- Manual Annotations of this start: 11 of 47
- Called 44.1% of time when present
- Phage (with cluster) where this start called: Alkhayr_15 (O), Bora_15 (O), Catdawg_14 (O), Corndog_17 (O), FoulBall_14 (O), Imara_15 (O), JangDynasty_14 (O), KingPhillip3_14 (O), Mori_15 (O), NiebruSaylor_15 (O), Schuy_16 (O), Shida_15 (O), Vorrrps_15 (O), Wogge42_15 (O), YoyoKar_15 (O),

Start 9:

- Found in 2 of 52 (3.8%) of genes in pham
- Manual Annotations of this start: 2 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Heinz_42 (DY), Hibiscus_43 (DY),

Start 10:

- Found in 16 of 52 (30.8%) of genes in pham
- Manual Annotations of this start: 15 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ayotoya_51 (DI), BetterKatz_51 (DI), Bock_51 (DI), Brylie_51 (DI), Chop_51 (DI), DelRio_52 (DI), Francois_50 (DI), GrandSlam_51 (DI), Hamood_51 (DI), Mulch_51 (DI), Nadeem_51 (DI), NancyRae_50 (DI), Parada_51 (DI), Pimento_52 (DI), TPA4_50 (singleton), WheatThin_50 (DI),

Summary by clusters:

There are 4 clusters represented in this pham: singleton, DY, O, DI,

Info for manual annotations of cluster DI:

- Start number 10 was manually annotated 15 times for cluster DI.

Info for manual annotations of cluster DY:

- Start number 9 was manually annotated 2 times for cluster DY.

Info for manual annotations of cluster O:

- Start number 7 was manually annotated 19 times for cluster O.
- Start number 8 was manually annotated 11 times for cluster O.

Gene Information:

Gene: Alkhayr_15 Start: 6062, Stop: 6742, Start Num: 8

Candidate Starts for Alkhayr_15:

(Start: 7 @6005 has 19 MA's), (Start: 8 @6062 has 11 MA's), (13, 6167), (14, 6185), (18, 6227), (20, 6236), (24, 6299), (25, 6311), (27, 6365), (29, 6383), (31, 6422), (33, 6467), (34, 6515), (37, 6605), (38, 6620), (39, 6674), (42, 6710),

Gene: Ashwin_16 Start: 6240, Stop: 6962, Start Num: 7

Candidate Starts for Ashwin_16:

(Start: 7 @6240 has 19 MA's), (Start: 8 @6297 has 11 MA's), (13, 6402), (14, 6420), (18, 6462), (20, 6471), (24, 6534), (25, 6546), (27, 6600), (29, 6618), (31, 6657), (33, 6702), (34, 6750), (37, 6825), (38, 6840), (39, 6894), (42, 6930),

Gene: Ayotoya_51 Start: 37282, Stop: 38049, Start Num: 10

Candidate Starts for Ayotoya_51:

(3, 36928), (Start: 10 @37282 has 15 MA's), (12, 37381), (13, 37390), (15, 37429), (16, 37432), (25, 37549), (28, 37612), (29, 37621), (31, 37660), (32, 37669), (36, 37831), (44, 37942), (45, 37978),

Gene: BetterKatz_51 Start: 36768, Stop: 37547, Start Num: 10

Candidate Starts for BetterKatz_51:

(Start: 10 @36768 has 15 MA's), (13, 36876), (15, 36915), (16, 36918), (25, 37035), (28, 37098), (29, 37107), (31, 37146), (32, 37155), (36, 37317), (44, 37440), (45, 37476),

Gene: Blessica_15 Start: 6070, Stop: 6765, Start Num: 7

Candidate Starts for Blessica_15:

(Start: 7 @6070 has 19 MA's), (Start: 8 @6127 has 11 MA's), (13, 6232), (14, 6250), (18, 6292), (20, 6301), (24, 6364), (25, 6376), (27, 6430), (29, 6448), (31, 6487), (33, 6532), (37, 6628), (38, 6643), (39, 6697), (42, 6733),

Gene: Bock_51 Start: 36502, Stop: 37281, Start Num: 10

Candidate Starts for Bock_51:

(3, 36148), (Start: 10 @36502 has 15 MA's), (12, 36601), (13, 36610), (15, 36649), (16, 36652), (25, 36769), (29, 36841), (31, 36880), (32, 36889), (36, 37051), (44, 37174), (45, 37210),

Gene: Bora_15 Start: 6095, Stop: 6772, Start Num: 8

Candidate Starts for Bora_15:

(Start: 7 @6038 has 19 MA's), (Start: 8 @6095 has 11 MA's), (13, 6200), (14, 6218), (18, 6260), (20, 6269), (24, 6332), (25, 6344), (27, 6398), (29, 6416), (31, 6455), (33, 6500), (37, 6635), (38, 6650), (39, 6704), (42, 6740),

Gene: Brylie_51 Start: 36552, Stop: 37343, Start Num: 10

Candidate Starts for Brylie_51:

(3, 36198), (Start: 10 @36552 has 15 MA's), (12, 36651), (13, 36660), (15, 36699), (16, 36702), (25, 36819), (28, 36882), (29, 36891), (31, 36930), (32, 36939), (36, 37101), (44, 37236), (45, 37272),

Gene: Catdawg_14 Start: 5733, Stop: 6371, Start Num: 8

Candidate Starts for Catdawg_14:

(Start: 7 @5676 has 19 MA's), (Start: 8 @5733 has 11 MA's), (13, 5838), (14, 5856), (18, 5898), (20, 5907), (24, 5970), (25, 5982), (27, 6036), (29, 6054), (31, 6093), (33, 6138), (37, 6234), (38, 6249), (39, 6303), (42, 6339),

Gene: Chop_51 Start: 37033, Stop: 37800, Start Num: 10

Candidate Starts for Chop_51:

(Start: 10 @37033 has 15 MA's), (11, 37051), (13, 37141), (15, 37180), (16, 37183), (25, 37300), (29, 37372), (31, 37411), (32, 37420), (36, 37582), (44, 37693), (45, 37729),

Gene: Corndog_17 Start: 6409, Stop: 7074, Start Num: 8

Candidate Starts for Corndog_17:

(Start: 7 @6352 has 19 MA's), (Start: 8 @6409 has 11 MA's), (13, 6514), (14, 6532), (18, 6574), (20, 6583), (24, 6646), (25, 6658), (27, 6712), (29, 6730), (31, 6769), (33, 6814), (34, 6862), (37, 6937), (38, 6952), (39, 7006), (42, 7042),

Gene: DelRio_52 Start: 37746, Stop: 38525, Start Num: 10

Candidate Starts for DelRio_52:

(Start: 10 @37746 has 15 MA's), (12, 37845), (13, 37854), (15, 37893), (16, 37896), (25, 38013), (28, 38076), (29, 38085), (31, 38124), (32, 38133), (36, 38295), (44, 38418), (45, 38454),

Gene: Dylan_15 Start: 6240, Stop: 6962, Start Num: 7

Candidate Starts for Dylan_15:

(Start: 7 @6240 has 19 MA's), (Start: 8 @6297 has 11 MA's), (13, 6402), (14, 6420), (18, 6462), (20, 6471), (24, 6534), (25, 6546), (27, 6600), (29, 6618), (31, 6657), (33, 6702), (34, 6750), (37, 6825), (38, 6840), (39, 6894), (42, 6930),

Gene: Familton_15 Start: 5677, Stop: 6372, Start Num: 7

Candidate Starts for Familton_15:

(Start: 7 @5677 has 19 MA's), (Start: 8 @5734 has 11 MA's), (13, 5839), (14, 5857), (18, 5899), (20, 5908), (24, 5971), (25, 5983), (27, 6037), (29, 6055), (31, 6094), (33, 6139), (37, 6235), (38, 6250), (39, 6304), (42, 6340),

Gene: Firecracker_15 Start: 5973, Stop: 6695, Start Num: 7

Candidate Starts for Firecracker_15:

(Start: 7 @5973 has 19 MA's), (Start: 8 @6030 has 11 MA's), (13, 6135), (14, 6153), (18, 6195), (20, 6204), (24, 6267), (25, 6279), (27, 6333), (29, 6351), (31, 6390), (33, 6435), (34, 6483), (37, 6558), (38, 6573), (39, 6627), (42, 6663),

Gene: FoulBall_14 Start: 5734, Stop: 6372, Start Num: 8

Candidate Starts for FoulBall_14:

(Start: 7 @5677 has 19 MA's), (Start: 8 @5734 has 11 MA's), (13, 5839), (14, 5857), (18, 5899), (20, 5908), (24, 5971), (25, 5983), (27, 6037), (29, 6055), (31, 6094), (33, 6139), (37, 6235), (38, 6250), (39, 6304), (42, 6340),

Gene: Francois_50 Start: 36554, Stop: 37309, Start Num: 10

Candidate Starts for Francois_50:

(Start: 10 @36554 has 15 MA's), (13, 36662), (16, 36704), (25, 36821), (28, 36884), (29, 36893), (31, 36932), (32, 36941), (36, 37103), (45, 37238),

Gene: GrandSlam_51 Start: 37033, Stop: 37800, Start Num: 10

Candidate Starts for GrandSlam_51:

(Start: 10 @37033 has 15 MA's), (11, 37051), (13, 37141), (15, 37180), (16, 37183), (25, 37300), (29, 37372), (31, 37411), (32, 37420), (36, 37582), (44, 37693), (45, 37729),

Gene: Hamood_51 Start: 37033, Stop: 37800, Start Num: 10

Candidate Starts for Hamood_51:

(Start: 10 @37033 has 15 MA's), (11, 37051), (13, 37141), (15, 37180), (16, 37183), (25, 37300), (29, 37372), (31, 37411), (32, 37420), (36, 37582), (44, 37693), (45, 37729),

Gene: Heinz_42 Start: 28349, Stop: 29047, Start Num: 9

Candidate Starts for Heinz_42:

(Start: 9 @28349 has 2 MA's), (17, 28511), (21, 28529), (22, 28574), (39, 28973), (40, 28985), (41, 28997), (43, 29024), (44, 29030),

Gene: Hibiscus_43 Start: 28298, Stop: 28996, Start Num: 9

Candidate Starts for Hibiscus_43:

(Start: 9 @28298 has 2 MA's), (17, 28460), (21, 28478), (22, 28523), (39, 28922), (40, 28934), (41, 28946), (43, 28973), (44, 28979),

Gene: Idergollasper_14 Start: 5677, Stop: 6372, Start Num: 7

Candidate Starts for Idergollasper_14:

(Start: 7 @5677 has 19 MA's), (Start: 8 @5734 has 11 MA's), (13, 5839), (14, 5857), (18, 5899), (20, 5908), (24, 5971), (25, 5983), (27, 6037), (29, 6055), (31, 6094), (33, 6139), (37, 6235), (38, 6250), (39, 6304), (42, 6340),

Gene: Imara_15 Start: 5987, Stop: 6625, Start Num: 8

Candidate Starts for Imara_15:

(Start: 7 @5930 has 19 MA's), (Start: 8 @5987 has 11 MA's), (13, 6092), (14, 6110), (18, 6152), (20, 6161), (24, 6224), (25, 6236), (27, 6290), (29, 6308), (31, 6347), (33, 6392), (37, 6488), (38, 6503), (39, 6557), (42, 6593),

Gene: JangDynasty_14 Start: 5823, Stop: 6461, Start Num: 8

Candidate Starts for JangDynasty_14:

(Start: 7 @5766 has 19 MA's), (Start: 8 @5823 has 11 MA's), (13, 5928), (14, 5946), (18, 5988), (20, 5997), (24, 6060), (25, 6072), (27, 6126), (29, 6144), (31, 6183), (33, 6228), (37, 6324), (38, 6339), (39, 6393), (42, 6429),

Gene: KingPhillip3_14 Start: 5734, Stop: 6372, Start Num: 8

Candidate Starts for KingPhillip3_14:

(Start: 7 @5677 has 19 MA's), (Start: 8 @5734 has 11 MA's), (13, 5839), (14, 5857), (18, 5899), (20, 5908), (24, 5971), (25, 5983), (27, 6037), (29, 6055), (31, 6094), (33, 6139), (37, 6235), (38, 6250), (39, 6304), (42, 6340),

Gene: Krili_15 Start: 6006, Stop: 6731, Start Num: 7

Candidate Starts for Krili_15:

(Start: 7 @6006 has 19 MA's), (Start: 8 @6063 has 11 MA's), (13, 6168), (14, 6186), (18, 6228), (20, 6237), (24, 6300), (25, 6312), (27, 6366), (29, 6384), (31, 6423), (33, 6468), (34, 6507), (37, 6594), (38, 6609), (39, 6663), (42, 6699),

Gene: MadKillah_16 Start: 6027, Stop: 6764, Start Num: 7

Candidate Starts for MadKillah_16:

(Start: 7 @6027 has 19 MA's), (Start: 8 @6084 has 11 MA's), (13, 6189), (14, 6207), (18, 6249), (20, 6258), (24, 6321), (25, 6333), (27, 6387), (29, 6405), (31, 6444), (33, 6489), (34, 6537), (37, 6627), (38, 6642), (39, 6696), (42, 6732),

Gene: Mori_15 Start: 5923, Stop: 6603, Start Num: 8

Candidate Starts for Mori_15:

(Start: 7 @5866 has 19 MA's), (Start: 8 @5923 has 11 MA's), (13, 6028), (14, 6046), (18, 6088), (20, 6097), (24, 6160), (25, 6172), (27, 6226), (29, 6244), (31, 6283), (33, 6328), (34, 6376), (37, 6466), (38, 6481), (39, 6535), (42, 6571),

Gene: Mulch_51 Start: 36552, Stop: 37343, Start Num: 10

Candidate Starts for Mulch_51:

(3, 36198), (Start: 10 @36552 has 15 MA's), (12, 36651), (13, 36660), (15, 36699), (16, 36702), (25, 36819), (28, 36882), (29, 36891), (31, 36930), (32, 36939), (36, 37101), (44, 37236), (45, 37272),

Gene: Murai_15 Start: 5866, Stop: 6603, Start Num: 7

Candidate Starts for Murai_15:

(Start: 7 @5866 has 19 MA's), (Start: 8 @5923 has 11 MA's), (13, 6028), (14, 6046), (18, 6088), (20, 6097), (24, 6160), (25, 6172), (27, 6226), (29, 6244), (31, 6283), (33, 6328), (34, 6376), (37, 6466), (38, 6481), (39, 6535), (42, 6571),

Gene: Nadeem_51 Start: 36552, Stop: 37331, Start Num: 10

Candidate Starts for Nadeem_51:

(3, 36198), (Start: 10 @36552 has 15 MA's), (12, 36651), (13, 36660), (15, 36699), (16, 36702), (25, 36819), (28, 36882), (29, 36891), (31, 36930), (32, 36939), (36, 37101), (44, 37224), (45, 37260),

Gene: NancyRae_50 Start: 36571, Stop: 37350, Start Num: 10

Candidate Starts for NancyRae_50:

(3, 36217), (Start: 10 @36571 has 15 MA's), (12, 36670), (13, 36679), (15, 36718), (16, 36721), (25, 36838), (28, 36901), (29, 36910), (31, 36949), (32, 36958), (36, 37120), (44, 37243), (45, 37279),

Gene: NiebruSaylor_15 Start: 5923, Stop: 6603, Start Num: 8

Candidate Starts for NiebruSaylor_15:

(Start: 7 @5866 has 19 MA's), (Start: 8 @5923 has 11 MA's), (13, 6028), (14, 6046), (18, 6088), (20, 6097), (24, 6160), (25, 6172), (27, 6226), (29, 6244), (31, 6283), (33, 6328), (34, 6376), (37, 6466), (38, 6481), (39, 6535), (42, 6571),

Gene: Parada_51 Start: 36552, Stop: 37343, Start Num: 10

Candidate Starts for Parada_51:

(3, 36198), (Start: 10 @36552 has 15 MA's), (12, 36651), (13, 36660), (15, 36699), (16, 36702), (25, 36819), (28, 36882), (29, 36891), (31, 36930), (32, 36939), (36, 37101), (44, 37236), (45, 37272),

Gene: Pimento_52 Start: 36149, Stop: 36928, Start Num: 10

Candidate Starts for Pimento_52:

(6, 36059), (Start: 10 @36149 has 15 MA's), (11, 36167), (13, 36257), (15, 36296), (16, 36299), (25, 36416), (29, 36488), (31, 36527), (32, 36536), (36, 36698), (44, 36821), (45, 36857),

Gene: Ryadel_17 Start: 6460, Stop: 7185, Start Num: 7

Candidate Starts for Ryadel_17:

(Start: 7 @6460 has 19 MA's), (Start: 8 @6517 has 11 MA's), (13, 6622), (14, 6640), (18, 6682), (20, 6691), (24, 6754), (25, 6766), (27, 6820), (29, 6838), (31, 6877), (33, 6922), (34, 6961), (37, 7048), (38, 7063), (39, 7117), (42, 7153),

Gene: SchoolBus_14 Start: 5677, Stop: 6372, Start Num: 7

Candidate Starts for SchoolBus_14:

(Start: 7 @5677 has 19 MA's), (Start: 8 @5734 has 11 MA's), (13, 5839), (14, 5857), (18, 5899), (20, 5908), (24, 5971), (25, 5983), (27, 6037), (29, 6055), (31, 6094), (33, 6139), (37, 6235), (38, 6250), (39, 6304), (42, 6340),

Gene: Schuy_16 Start: 6084, Stop: 6764, Start Num: 8

Candidate Starts for Schuy_16:

(Start: 7 @6027 has 19 MA's), (Start: 8 @6084 has 11 MA's), (13, 6189), (14, 6207), (18, 6249), (20, 6258), (24, 6321), (25, 6333), (27, 6387), (29, 6405), (31, 6444), (33, 6489), (34, 6537), (37, 6627), (38, 6642), (39, 6696), (42, 6732),

Gene: Shida_15 Start: 5989, Stop: 6669, Start Num: 8

Candidate Starts for Shida_15:

(Start: 7 @5932 has 19 MA's), (Start: 8 @5989 has 11 MA's), (13, 6094), (14, 6112), (18, 6154), (20, 6163), (24, 6226), (25, 6238), (27, 6292), (29, 6310), (31, 6349), (33, 6394), (34, 6442), (37, 6532), (38, 6547), (39, 6601), (42, 6637),

Gene: Smooch_16 Start: 6196, Stop: 6918, Start Num: 7

Candidate Starts for Smooch_16:

(Start: 7 @6196 has 19 MA's), (Start: 8 @6253 has 11 MA's), (13, 6358), (14, 6376), (18, 6418), (20, 6427), (24, 6490), (25, 6502), (27, 6556), (29, 6574), (31, 6613), (33, 6658), (34, 6706), (37, 6781), (38, 6796), (39, 6850), (42, 6886),

Gene: TPA4_50 Start: 38139, Stop: 38771, Start Num: 10

Candidate Starts for TPA4_50:

(1, 37530), (2, 37686), (4, 37959), (5, 38043), (Start: 10 @38139 has 15 MA's), (19, 38325), (23, 38379), (24, 38385), (25, 38397), (26, 38421), (30, 38478), (31, 38508), (32, 38517), (35, 38622),

Gene: TelAviv_14 Start: 5674, Stop: 6369, Start Num: 7

Candidate Starts for TelAviv_14:

(Start: 7 @5674 has 19 MA's), (Start: 8 @5731 has 11 MA's), (13, 5836), (14, 5854), (18, 5896), (20, 5905), (24, 5968), (25, 5980), (27, 6034), (29, 6052), (31, 6091), (33, 6136), (37, 6232), (38, 6247), (39, 6301), (42, 6337),

Gene: Vagabond_15 Start: 5932, Stop: 6645, Start Num: 7

Candidate Starts for Vagabond_15:

(Start: 7 @5932 has 19 MA's), (Start: 8 @5989 has 11 MA's), (13, 6094), (14, 6112), (18, 6154), (20, 6163), (24, 6226), (25, 6238), (27, 6292), (29, 6310), (31, 6349), (33, 6394), (34, 6442), (37, 6508), (38, 6523), (39, 6577), (42, 6613),

Gene: Vorrps_15 Start: 5923, Stop: 6603, Start Num: 8

Candidate Starts for Vorrps_15:

(Start: 7 @5866 has 19 MA's), (Start: 8 @5923 has 11 MA's), (13, 6028), (14, 6046), (18, 6088), (20, 6097), (24, 6160), (25, 6172), (27, 6226), (29, 6244), (31, 6283), (33, 6328), (34, 6376), (37, 6466), (38, 6481), (39, 6535), (42, 6571),

Gene: WheatThin_50 Start: 36552, Stop: 37331, Start Num: 10

Candidate Starts for WheatThin_50:

(3, 36198), (Start: 10 @36552 has 15 MA's), (12, 36651), (13, 36660), (15, 36699), (16, 36702), (25, 36819), (28, 36882), (29, 36891), (31, 36930), (32, 36939), (36, 37101), (44, 37224), (45, 37260),

Gene: Wildflower_15 Start: 5892, Stop: 6626, Start Num: 7

Candidate Starts for Wildflower_15:

(Start: 7 @5892 has 19 MA's), (Start: 8 @5949 has 11 MA's), (13, 6054), (14, 6072), (18, 6114), (20, 6123), (24, 6186), (25, 6198), (27, 6252), (29, 6270), (31, 6309), (33, 6354), (37, 6489), (38, 6504), (39, 6558), (42, 6594),

Gene: Winget_15 Start: 5931, Stop: 6644, Start Num: 7

Candidate Starts for Winget_15:

(Start: 7 @5931 has 19 MA's), (Start: 8 @5988 has 11 MA's), (13, 6093), (14, 6111), (18, 6153), (20, 6162), (24, 6225), (25, 6237), (27, 6291), (29, 6309), (31, 6348), (33, 6393), (34, 6441), (37, 6507), (38, 6522), (39, 6576), (42, 6612),

Gene: Wogge42_15 Start: 6078, Stop: 6734, Start Num: 8

Candidate Starts for Wogge42_15:

(Start: 7 @6021 has 19 MA's), (Start: 8 @6078 has 11 MA's), (13, 6183), (14, 6201), (18, 6243), (20, 6252), (24, 6315), (25, 6327), (27, 6381), (29, 6399), (31, 6438), (33, 6483), (34, 6531), (37, 6597), (38, 6612), (39, 6666), (42, 6702),

Gene: YoyoKar_15 Start: 5735, Stop: 6373, Start Num: 8

Candidate Starts for YoyoKar_15:

(Start: 7 @5678 has 19 MA's), (Start: 8 @5735 has 11 MA's), (13, 5840), (14, 5858), (18, 5900), (20, 5909), (24, 5972), (25, 5984), (27, 6038), (29, 6056), (31, 6095), (33, 6140), (37, 6236), (38, 6251), (39, 6305), (42, 6341),

Gene: YungJamal_16 Start: 6232, Stop: 6954, Start Num: 7

Candidate Starts for YungJamal_16:

(Start: 7 @6232 has 19 MA's), (Start: 8 @6289 has 11 MA's), (13, 6394), (14, 6412), (18, 6454), (20, 6463), (24, 6526), (25, 6538), (27, 6592), (29, 6610), (31, 6649), (33, 6694), (34, 6742), (37, 6817), (38, 6832), (39, 6886), (42, 6922),

Gene: Zakhe101_16 Start: 6244, Stop: 6966, Start Num: 7

Candidate Starts for Zakhe101_16:

(Start: 7 @6244 has 19 MA's), (Start: 8 @6301 has 11 MA's), (13, 6406), (14, 6424), (18, 6466), (20, 6475), (24, 6538), (25, 6550), (27, 6604), (29, 6622), (31, 6661), (33, 6706), (34, 6754), (37, 6829), (38, 6844), (39, 6898), (42, 6934),

Gene: Zebo_14 Start: 5677, Stop: 6372, Start Num: 7

Candidate Starts for Zebo_14:

(Start: 7 @5677 has 19 MA's), (Start: 8 @5734 has 11 MA's), (13, 5839), (14, 5857), (18, 5899), (20, 5908), (24, 5971), (25, 5983), (27, 6037), (29, 6055), (31, 6094), (33, 6139), (37, 6235), (38, 6250), (39, 6304), (42, 6340),