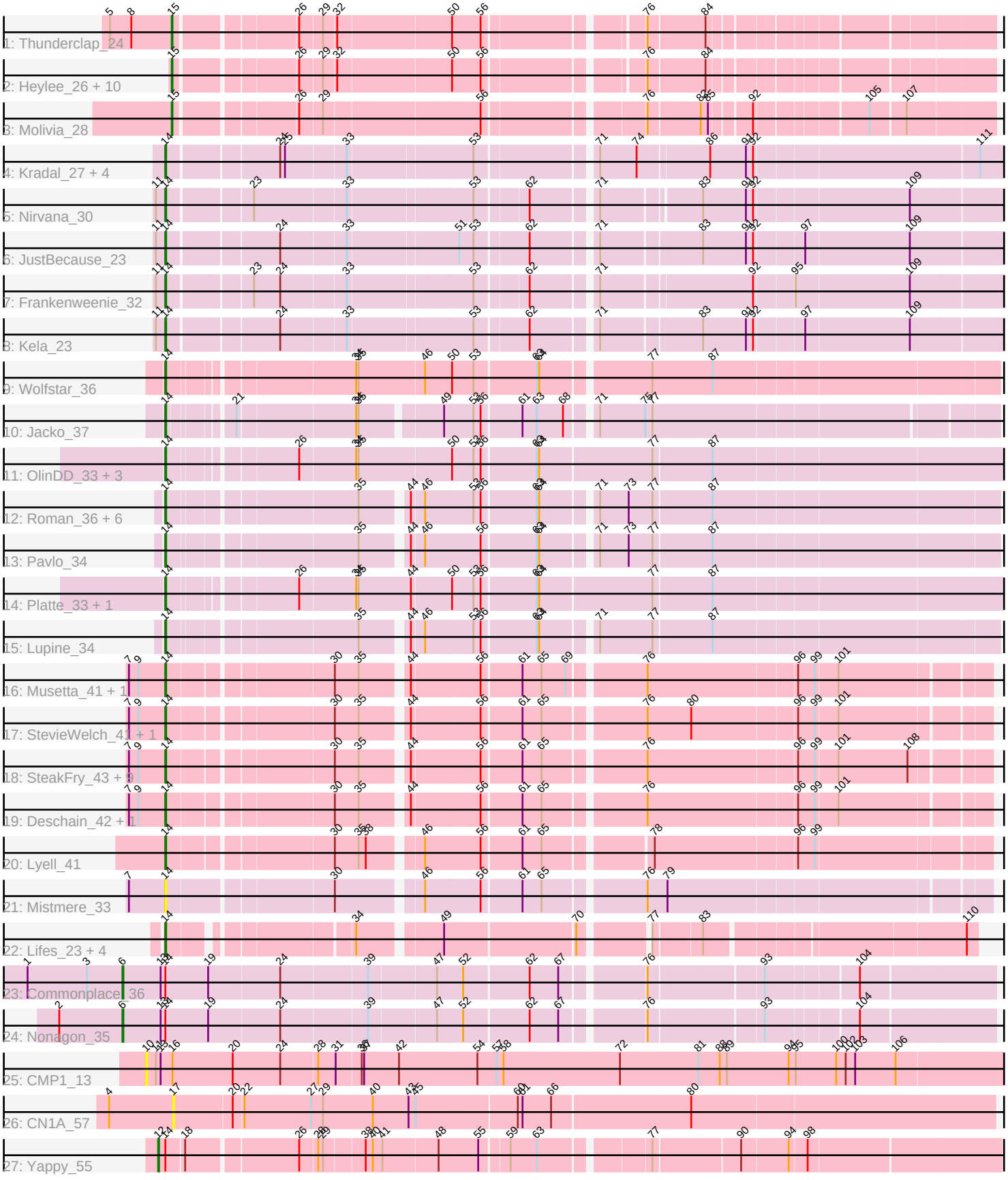
Pham 347590


1: Thunderclap_24
2: Heylee_26 + 10
3: Molivia_28
4: Kradal_27 + 4
5: Nirvana_30
6: JustBecause_23
7: Frankenweenie_32
8: Kela_23
9: Wolfstar_36
10: Jacko_37
11: OlinDD_33 + 3
12: Roman_36 + 6
13: Pavlo_34
14: Platte_33 + 1
15: Lupine_34
16: Musetta_41 + 1
17: StevieWelch_41 + 1
18: SteakFry_43 + 9
19: Deschain_42 + 1
20: Lyell_41
21: Mistmere_33
22: Lifes_23 + 4
23: Commonplace_36
24: Nonagon_35
25: CMP1_13
26: CN1A_57
27: Yappy_55

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 347590 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 347590 has 67 members, 7 are drafts.

Phages represented in each track:
• Track 1 : Thunderclap_24
• Track 2 : Heylee_26, Amigo_24, Rings_23, Boersma_25, Gorgeous_24, Jaek_23, Amavida_26, Anansi_24, Ichor_23, SorJuana_24, Yeezus_23
• Track 3 : Molivia_28
• Track 4 : Kradal_27, Quantum_26, EhyElimayoE_27, Sarkar_27, Satis_27
• Track 5 : Nirvana_30
• Track 6 : JustBecause_23
• Track 7 : Frankenweenie_32
• Track 8 : Kela_23
• Track 9 : Wolfstar_36
• Track 10 : Jacko_37
• Track 11 : OlinDD_33, Hortus1_33, Pioneer3_33, Tandem_33
• Track 12 : Roman_36, Hubbs_36, Solimine_36, Uterion_39, Saradis_36, PhillyPhilly_35, DejaVu_37
• Track 13 : Pavlo_34
• Track 14 : Platte_33, Alleb_34
• Track 15 : Lupine_34
• Track 16 : Musetta_41, Issa7_40
• Track 17 : StevieWelch_41, Welcome_42
• Track 18 : SteakFry_43, DustyDino_44, RunningBrook_42, HollowPurple_42, ASegato_40, Shroomer_45, Necrophoxinus_43, Casablancas_42, Yuma_40, Erenyeager_41
• Track 19 : Deschain_42, Fork_37
• Track 20 : Lyell_41
• Track 21 : Mistmere_33
• Track 22 : Lifes_23, LeeroyJenkins_25, Cassita_25, WaterT_24, BarnCat_21
• Track 23 : Commonplace_36
• Track 24 : Nonagon_35
• Track 25 : CMP1_13
• Track 26 : CN1A_57
• Track 27 : Yappy_55

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

The start number called the most often in the published annotations is 14, it was called in 44 of the 60 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• ASegato_40, Alleb_34, BarnCat_21, Casablancas_42, Cassita_25, DejaVu_37, Deschain_42, DustyDino_44, EhyElimayoE_27, Erenyeager_41, Fork_37, Frankenweenie_32, HollowPurple_42, Hortus1_33, Hubbs_36, Issa7_40, Jacko_37, JustBecause_23, Kela_23, Kradal_27, LeeroyJenkins_25, Lifes_23, Lupine_34, Lyell_41, Mistmere_33, Musetta_41, Necrophoxinus_43, Nirvana_30, OlinDD_33, Pavlo_34, PhillyPhilly_35, Pioneer3_33, Platte_33, Quantum_26, Roman_36, RunningBrook_42, Saradis_36, Sarkar_27, Satis_27, Shroomer_45, Solimine_36, SteakFry_43, StevieWelch_41, Tandem_33, Uterion_39, WaterT_24, Welcome_42, Wolfstar_36, Yuma_40,

Genes that have the "Most Annotated" start but do not call it:
• Commonplace_36, Nonagon_35, Yappy_55,

Genes that do not have the "Most Annotated" start:
• Amavida_26, Amigo_24, Anansi_24, Boersma_25, CMP1_13, CN1A_57, Gorgeous_24, Heylee_26, Ichor_23, Jaek_23, Molivia_28, Rings_23, SorJuana_24, Thunderclap_24, Yeezus_23,

Summary by start number:

Start 6:
• Found in 2 of 67 (3.0%) of genes in pham
• Manual Annotations of this start: 2 of 60
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Commonplace_36 (JD), Nonagon_35 (JD),

Start 10:
• Found in 1 of 67 (1.5%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CMP1_13 (singleton),

Start 12:
• Found in 1 of 67 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 60
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Yappy_55 (singleton),

Start 14:
• Found in 52 of 67 (77.6%) of genes in pham
• Manual Annotations of this start: 44 of 60
• Called 94.2% of time when present
• Phage (with cluster) where this start called: ASegato_40 (ED2), Alleb_34 (ED1), BarnCat_21 (GB), Casablancas_42 (ED2), Cassita_25 (GB), DejaVu_37 (ED1), Deschain_42 (ED2), DustyDino_44 (ED2), EhyElimayoE_27 (BM), Erenyeager_41

(ED2), Fork_37 (ED2), Frankenweenie_32 (BM), HollowPurple_42 (ED2), Hortus1_33 (ED1), Hubbs_36 (ED1), Issa7_40 (ED2), Jacko_37 (ED1), JustBecause_23 (BM), Kela_23 (BM), Kradal_27 (BM), LeeroyJenkins_25 (GB), Lifes_23 (GB), Lupine_34 (ED1), Lyell_41 (ED2), Mistmere_33 (ED3), Musetta_41 (ED2), Necrophoxinus_43 (ED2), Nirvana_30 (BM), OlinDD_33 (ED1), Pavlo_34 (ED1), PhillyPhilly_35 (ED1), Pioneer3_33 (ED1), Platte_33 (ED1), Quantum_26 (BM), Roman_36 (ED1), RunningBrook_42 (ED2), Saradis_36 (ED1), Sarkar_27 (BM), Satis_27 (BM), Shroomer_45 (ED2), Solimine_36 (ED1), SteakFry_43 (ED2), StevieWelch_41 (ED2), Tandem_33 (ED1), Uterion_39 (ED1), WaterT_24 (GB), Welcome_42 (ED2), Wolfstar_36 (ED), Yuma_40 (ED2),

Start 15:
• Found in 13 of 67 (19.4%) of genes in pham
• Manual Annotations of this start: 13 of 60
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Amavida_26 (AQ), Amigo_24 (AQ), Anansi_24 (AQ), Boersma_25 (AQ), Gorgeous_24 (AQ), Heylee_26 (AQ), Ichor_23 (AQ), Jaek_23 (AQ), Molivia_28 (AQ), Rings_23 (AQ), SorJuana_24 (AQ), Thunderclap_24 (AQ), Yeezus_23 (AQ),

Start 17:
• Found in 1 of 67 (1.5%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CN1A_57 (singleton),

Summary by clusters:

There are 9 clusters represented in this pham: AQ, singleton, ED, ED2, ED3, ED1, GB, BM, JD,

Info for manual annotations of cluster AQ:
•Start number 15 was manually annotated 13 times for cluster AQ.

Info for manual annotations of cluster BM:
•Start number 14 was manually annotated 9 times for cluster BM.

Info for manual annotations of cluster ED:
•Start number 14 was manually annotated 1 time for cluster ED.

Info for manual annotations of cluster ED1:
•Start number 14 was manually annotated 14 times for cluster ED1.

Info for manual annotations of cluster ED2:
•Start number 14 was manually annotated 15 times for cluster ED2.

Info for manual annotations of cluster GB:
•Start number 14 was manually annotated 5 times for cluster GB.

Info for manual annotations of cluster JD:
•Start number 6 was manually annotated 2 times for cluster JD.

Gene Information:

Gene: ASegato_40 Start: 16260, Stop: 17201, Start Num: 14
Candidate Starts for ASegato_40:
(7, 16215), (9, 16227), (Start: 14 @16260 has 44 MA's), (30, 16446), (35, 16476), (44, 16527), (56, 16608), (61, 16656), (65, 16680), (76, 16797), (96, 16977), (99, 16998), (101, 17025), (108, 17112),

Gene: Alleb_34 Start: 14751, Stop: 15737, Start Num: 14
Candidate Starts for Alleb_34:
(Start: 14 @14751 has 44 MA's), (26, 14892), (34, 14961), (35, 14964), (44, 15030), (50, 15078), (53, 15102), (56, 15111), (63, 15177), (64, 15180), (77, 15318), (87, 15390),

Gene: Amavida_26 Start: 11936, Stop: 12838, Start Num: 15
Candidate Starts for Amavida_26:
(Start: 15 @11936 has 13 MA's), (26, 12071), (29, 12098), (32, 12113), (50, 12248), (56, 12281), (76, 12455), (84, 12524),

Gene: Amigo_24 Start: 11810, Stop: 12712, Start Num: 15
Candidate Starts for Amigo_24:
(Start: 15 @11810 has 13 MA's), (26, 11945), (29, 11972), (32, 11987), (50, 12122), (56, 12155), (76, 12329), (84, 12398),

Gene: Anansi_24 Start: 11819, Stop: 12721, Start Num: 15
Candidate Starts for Anansi_24:
(Start: 15 @11819 has 13 MA's), (26, 11954), (29, 11981), (32, 11996), (50, 12131), (56, 12164), (76, 12338), (84, 12407),

Gene: BarnCat_21 Start: 9678, Stop: 10562, Start Num: 14
Candidate Starts for BarnCat_21:
(Start: 14 @9678 has 44 MA's), (34, 9876), (49, 9969), (70, 10122), (77, 10197), (83, 10254), (110, 10551),

Gene: Boersma_25 Start: 11810, Stop: 12712, Start Num: 15
Candidate Starts for Boersma_25:
(Start: 15 @11810 has 13 MA's), (26, 11945), (29, 11972), (32, 11987), (50, 12122), (56, 12155), (76, 12329), (84, 12398),

Gene: CMP1_13 Start: 10374, Stop: 11444, Start Num: 10
Candidate Starts for CMP1_13:
(10, 10374), (11, 10386), (13, 10392), (16, 10407), (20, 10482), (24, 10542), (28, 10587), (31, 10608), (36, 10638), (37, 10641), (42, 10683), (54, 10782), (57, 10806), (58, 10815), (72, 10962), (81, 11058), (88, 11085), (89, 11094), (94, 11172), (95, 11181), (100, 11232), (102, 11244), (103, 11256), (106, 11307),

Gene: CN1A_57 Start: 45536, Stop: 44523, Start Num: 17
Candidate Starts for CN1A_57:
(4, 45617), (17, 45536), (20, 45464), (22, 45452), (27, 45368), (29, 45353), (40, 45290), (43, 45245), (45, 45236), (60, 45113), (61, 45107), (66, 45071), (80, 44900),

Gene: Casablancas_42 Start: 16344, Stop: 17285, Start Num: 14
Candidate Starts for Casablancas_42:

(7, 16299), (9, 16311), (Start: 14 @16344 has 44 MA's), (30, 16530), (35, 16560), (44, 16611), (56, 16692), (61, 16740), (65, 16764), (76, 16881), (96, 17061), (99, 17082), (101, 17109), (108, 17196),

Gene: Cassita_25 Start: 10239, Stop: 11123, Start Num: 14
Candidate Starts for Cassita_25:
(Start: 14 @10239 has 44 MA's), (34, 10437), (49, 10530), (70, 10683), (77, 10758), (83, 10815), (110, 11112),

Gene: Commonplace_36 Start: 16933, Stop: 17955, Start Num: 6
Candidate Starts for Commonplace_36:
(1, 16813), (3, 16888), (Start: 6 @16933 has 2 MA's), (13, 16981), (Start: 14 @16987 has 44 MA's), (19, 17041), (24, 17128), (39, 17233), (47, 17314), (52, 17344), (62, 17422), (67, 17458), (76, 17551), (93, 17686), (104, 17791),

Gene: DejaVu_37 Start: 15572, Stop: 16528, Start Num: 14
Candidate Starts for DejaVu_37:
(Start: 14 @15572 has 44 MA's), (35, 15788), (44, 15839), (46, 15854), (53, 15911), (56, 15920), (63, 15986), (64, 15989), (71, 16049), (73, 16085), (77, 16115), (87, 16187),

Gene: Deschain_42 Start: 17008, Stop: 17949, Start Num: 14
Candidate Starts for Deschain_42:
(7, 16963), (9, 16975), (Start: 14 @17008 has 44 MA's), (30, 17194), (35, 17224), (44, 17275), (56, 17356), (61, 17404), (65, 17428), (76, 17545), (96, 17725), (99, 17746), (101, 17773),

Gene: DustyDino_44 Start: 17199, Stop: 18140, Start Num: 14
Candidate Starts for DustyDino_44:
(7, 17154), (9, 17166), (Start: 14 @17199 has 44 MA's), (30, 17385), (35, 17415), (44, 17466), (56, 17547), (61, 17595), (65, 17619), (76, 17736), (96, 17916), (99, 17937), (101, 17964), (108, 18051),

Gene: EhyElimayoE_27 Start: 15317, Stop: 16402, Start Num: 14
Candidate Starts for EhyElimayoE_27:
(Start: 14 @15317 has 44 MA's), (24, 15446), (25, 15452), (33, 15524), (53, 15671), (71, 15806), (74, 15851), (86, 15935), (91, 15980), (92, 15989), (111, 16259),

Gene: Erenyeager_41 Start: 16594, Stop: 17535, Start Num: 14
Candidate Starts for Erenyeager_41:
(7, 16549), (9, 16561), (Start: 14 @16594 has 44 MA's), (30, 16780), (35, 16810), (44, 16861), (56, 16942), (61, 16990), (65, 17014), (76, 17131), (96, 17311), (99, 17332), (101, 17359), (108, 17446),

Gene: Fork_37 Start: 15909, Stop: 16850, Start Num: 14
Candidate Starts for Fork_37:
(7, 15864), (9, 15876), (Start: 14 @15909 has 44 MA's), (30, 16095), (35, 16125), (44, 16176), (56, 16257), (61, 16305), (65, 16329), (76, 16446), (96, 16626), (99, 16647), (101, 16674),

Gene: Frankenweenie_32 Start: 17212, Stop: 18291, Start Num: 14
Candidate Starts for Frankenweenie_32:
(11, 17200), (Start: 14 @17212 has 44 MA's), (23, 17308), (24, 17341), (33, 17419), (53, 17566), (62, 17626), (71, 17698), (92, 17878), (95, 17923), (109, 18064),

Gene: Gorgeous_24 Start: 11819, Stop: 12721, Start Num: 15
Candidate Starts for Gorgeous_24:
(Start: 15 @11819 has 13 MA's), (26, 11954), (29, 11981), (32, 11996), (50, 12131), (56, 12164), (76, 12338), (84, 12407),

Gene: Heylee_26 Start: 11936, Stop: 12838, Start Num: 15
Candidate Starts for Heylee_26:
(Start: 15 @11936 has 13 MA's), (26, 12071), (29, 12098), (32, 12113), (50, 12248), (56, 12281), (76, 12455), (84, 12524),

Gene: HollowPurple_42 Start: 16459, Stop: 17400, Start Num: 14
Candidate Starts for HollowPurple_42:
(7, 16414), (9, 16426), (Start: 14 @16459 has 44 MA's), (30, 16645), (35, 16675), (44, 16726), (56, 16807), (61, 16855), (65, 16879), (76, 16996), (96, 17176), (99, 17197), (101, 17224), (108, 17311),

Gene: Hortus1_33 Start: 14765, Stop: 15751, Start Num: 14
Candidate Starts for Hortus1_33:
(Start: 14 @14765 has 44 MA's), (26, 14906), (34, 14975), (35, 14978), (50, 15092), (53, 15116), (56, 15125), (63, 15191), (64, 15194), (77, 15332), (87, 15404),

Gene: Hubbs_36 Start: 15784, Stop: 16740, Start Num: 14
Candidate Starts for Hubbs_36:
(Start: 14 @15784 has 44 MA's), (35, 16000), (44, 16051), (46, 16066), (53, 16123), (56, 16132), (63, 16198), (64, 16201), (71, 16261), (73, 16297), (77, 16327), (87, 16399),

Gene: Ichor_23 Start: 11810, Stop: 12712, Start Num: 15
Candidate Starts for Ichor_23:
(Start: 15 @11810 has 13 MA's), (26, 11945), (29, 11972), (32, 11987), (50, 12122), (56, 12155), (76, 12329), (84, 12398),

Gene: Issa7_40 Start: 15912, Stop: 16853, Start Num: 14
Candidate Starts for Issa7_40:
(7, 15867), (9, 15879), (Start: 14 @15912 has 44 MA's), (30, 16098), (35, 16128), (44, 16179), (56, 16260), (61, 16308), (65, 16332), (69, 16362), (76, 16449), (96, 16629), (99, 16650), (101, 16677),

Gene: Jacko_37 Start: 15287, Stop: 16231, Start Num: 14
Candidate Starts for Jacko_37:
(Start: 14 @15287 has 44 MA's), (21, 15353), (34, 15494), (35, 15497), (49, 15590), (53, 15623), (56, 15632), (61, 15680), (63, 15698), (68, 15731), (71, 15761), (75, 15818), (77, 15827),

Gene: Jaek_23 Start: 11810, Stop: 12712, Start Num: 15
Candidate Starts for Jaek_23:
(Start: 15 @11810 has 13 MA's), (26, 11945), (29, 11972), (32, 11987), (50, 12122), (56, 12155), (76, 12329), (84, 12398),

Gene: JustBecause_23 Start: 14058, Stop: 15143, Start Num: 14
Candidate Starts for JustBecause_23:
(11, 14046), (Start: 14 @14058 has 44 MA's), (24, 14187), (33, 14265), (51, 14394), (53, 14412), (62, 14475), (71, 14547), (83, 14667), (91, 14721), (92, 14730), (97, 14787), (109, 14916),

Gene: Kela_23 Start: 14049, Stop: 15134, Start Num: 14
Candidate Starts for Kela_23:
(11, 14037), (Start: 14 @14049 has 44 MA's), (24, 14178), (33, 14256), (53, 14403), (62, 14466), (71, 14538), (83, 14658), (91, 14712), (92, 14721), (97, 14778), (109, 14907),

Gene: Kradal_27 Start: 15317, Stop: 16402, Start Num: 14
Candidate Starts for Kradal_27:

(Start: 14 @15317 has 44 MA's), (24, 15446), (25, 15452), (33, 15524), (53, 15671), (71, 15806), (74, 15851), (86, 15935), (91, 15980), (92, 15989), (111, 16259),

Gene: LeeroyJenkins_25 Start: 10157, Stop: 11041, Start Num: 14
Candidate Starts for LeeroyJenkins_25:
(Start: 14 @10157 has 44 MA's), (34, 10355), (49, 10448), (70, 10601), (77, 10676), (83, 10733), (110, 11030),

Gene: Lifes_23 Start: 9709, Stop: 10593, Start Num: 14
Candidate Starts for Lifes_23:
(Start: 14 @9709 has 44 MA's), (34, 9907), (49, 10000), (70, 10153), (77, 10228), (83, 10285), (110, 10582),

Gene: Lupine_34 Start: 14985, Stop: 15941, Start Num: 14
Candidate Starts for Lupine_34:
(Start: 14 @14985 has 44 MA's), (35, 15201), (44, 15252), (46, 15267), (53, 15324), (56, 15333), (63, 15399), (64, 15402), (71, 15462), (77, 15528), (87, 15600),

Gene: Lyell_41 Start: 16521, Stop: 17459, Start Num: 14
Candidate Starts for Lyell_41:
(Start: 14 @16521 has 44 MA's), (30, 16707), (35, 16737), (38, 16746), (46, 16803), (56, 16869), (61, 16917), (65, 16941), (78, 17061), (96, 17232), (99, 17253),

Gene: Mistmere_33 Start: 13839, Stop: 14786, Start Num: 14
Candidate Starts for Mistmere_33:
(7, 13794), (Start: 14 @13839 has 44 MA's), (30, 14031), (46, 14127), (56, 14193), (61, 14241), (65, 14265), (76, 14382), (79, 14406),

Gene: Molivia_28 Start: 12093, Stop: 13004, Start Num: 15
Candidate Starts for Molivia_28:
(Start: 15 @12093 has 13 MA's), (26, 12228), (29, 12255), (56, 12438), (76, 12618), (82, 12681), (85, 12690), (92, 12735), (105, 12858), (107, 12900),

Gene: Musetta_41 Start: 16628, Stop: 17569, Start Num: 14
Candidate Starts for Musetta_41:
(7, 16583), (9, 16595), (Start: 14 @16628 has 44 MA's), (30, 16814), (35, 16844), (44, 16895), (56, 16976), (61, 17024), (65, 17048), (69, 17078), (76, 17165), (96, 17345), (99, 17366), (101, 17393),

Gene: Necrophoxinus_43 Start: 17207, Stop: 18148, Start Num: 14
Candidate Starts for Necrophoxinus_43:
(7, 17162), (9, 17174), (Start: 14 @17207 has 44 MA's), (30, 17393), (35, 17423), (44, 17474), (56, 17555), (61, 17603), (65, 17627), (76, 17744), (96, 17924), (99, 17945), (101, 17972), (108, 18059),

Gene: Nirvana_30 Start: 17412, Stop: 18488, Start Num: 14
Candidate Starts for Nirvana_30:
(11, 17400), (Start: 14 @17412 has 44 MA's), (23, 17508), (33, 17619), (53, 17766), (62, 17826), (71, 17898), (83, 18012), (91, 18066), (92, 18075), (109, 18261),

Gene: Nonagon_35 Start: 16633, Stop: 17655, Start Num: 6
Candidate Starts for Nonagon_35:
(2, 16555), (Start: 6 @16633 has 2 MA's), (13, 16681), (Start: 14 @16687 has 44 MA's), (19, 16741), (24, 16828), (39, 16933), (47, 17014), (52, 17044), (62, 17122), (67, 17158), (76, 17251), (93, 17386), (104, 17491),

Gene: OlinDD_33 Start: 14764, Stop: 15750, Start Num: 14
Candidate Starts for OlinDD_33:
(Start: 14 @14764 has 44 MA's), (26, 14905), (34, 14974), (35, 14977), (50, 15091), (53, 15115), (56, 15124), (63, 15190), (64, 15193), (77, 15331), (87, 15403),

Gene: Pavlo_34 Start: 15260, Stop: 16216, Start Num: 14
Candidate Starts for Pavlo_34:
(Start: 14 @15260 has 44 MA's), (35, 15476), (44, 15527), (46, 15542), (56, 15608), (63, 15674), (64, 15677), (71, 15737), (73, 15773), (77, 15803), (87, 15875),

Gene: PhillyPhilly_35 Start: 15165, Stop: 16121, Start Num: 14
Candidate Starts for PhillyPhilly_35:
(Start: 14 @15165 has 44 MA's), (35, 15381), (44, 15432), (46, 15447), (53, 15504), (56, 15513), (63, 15579), (64, 15582), (71, 15642), (73, 15678), (77, 15708), (87, 15780),

Gene: Pioneer3_33 Start: 14748, Stop: 15734, Start Num: 14
Candidate Starts for Pioneer3_33:
(Start: 14 @14748 has 44 MA's), (26, 14889), (34, 14958), (35, 14961), (50, 15075), (53, 15099), (56, 15108), (63, 15174), (64, 15177), (77, 15315), (87, 15387),

Gene: Platte_33 Start: 14533, Stop: 15519, Start Num: 14
Candidate Starts for Platte_33:
(Start: 14 @14533 has 44 MA's), (26, 14674), (34, 14743), (35, 14746), (44, 14812), (50, 14860), (53, 14884), (56, 14893), (63, 14959), (64, 14962), (77, 15100), (87, 15172),

Gene: Quantum_26 Start: 15317, Stop: 16402, Start Num: 14
Candidate Starts for Quantum_26:
(Start: 14 @15317 has 44 MA's), (24, 15446), (25, 15452), (33, 15524), (53, 15671), (71, 15806), (74, 15851), (86, 15935), (91, 15980), (92, 15989), (111, 16259),

Gene: Rings_23 Start: 11941, Stop: 12843, Start Num: 15
Candidate Starts for Rings_23:
(Start: 15 @11941 has 13 MA's), (26, 12076), (29, 12103), (32, 12118), (50, 12253), (56, 12286), (76, 12460), (84, 12529),

Gene: Roman_36 Start: 15631, Stop: 16587, Start Num: 14
Candidate Starts for Roman_36:
(Start: 14 @15631 has 44 MA's), (35, 15847), (44, 15898), (46, 15913), (53, 15970), (56, 15979), (63, 16045), (64, 16048), (71, 16108), (73, 16144), (77, 16174), (87, 16246),

Gene: RunningBrook_42 Start: 17199, Stop: 18140, Start Num: 14
Candidate Starts for RunningBrook_42:
(7, 17154), (9, 17166), (Start: 14 @17199 has 44 MA's), (30, 17385), (35, 17415), (44, 17466), (56, 17547), (61, 17595), (65, 17619), (76, 17736), (96, 17916), (99, 17937), (101, 17964), (108, 18051),

Gene: Saradis_36 Start: 15223, Stop: 16179, Start Num: 14
Candidate Starts for Saradis_36:
(Start: 14 @15223 has 44 MA's), (35, 15439), (44, 15490), (46, 15505), (53, 15562), (56, 15571), (63, 15637), (64, 15640), (71, 15700), (73, 15736), (77, 15766), (87, 15838),

Gene: Sarkar_27 Start: 15317, Stop: 16402, Start Num: 14
Candidate Starts for Sarkar_27:

(Start: 14 @15317 has 44 MA's), (24, 15446), (25, 15452), (33, 15524), (53, 15671), (71, 15806), (74, 15851), (86, 15935), (91, 15980), (92, 15989), (111, 16259),

Gene: Satis_27 Start: 15313, Stop: 16398, Start Num: 14
Candidate Starts for Satis_27:
(Start: 14 @15313 has 44 MA's), (24, 15442), (25, 15448), (33, 15520), (53, 15667), (71, 15802), (74, 15847), (86, 15931), (91, 15976), (92, 15985), (111, 16255),

Gene: Shroomer_45 Start: 16739, Stop: 17680, Start Num: 14
Candidate Starts for Shroomer_45:
(7, 16694), (9, 16706), (Start: 14 @16739 has 44 MA's), (30, 16925), (35, 16955), (44, 17006), (56, 17087), (61, 17135), (65, 17159), (76, 17276), (96, 17456), (99, 17477), (101, 17504), (108, 17591),

Gene: Solimine_36 Start: 15638, Stop: 16594, Start Num: 14
Candidate Starts for Solimine_36:
(Start: 14 @15638 has 44 MA's), (35, 15854), (44, 15905), (46, 15920), (53, 15977), (56, 15986), (63, 16052), (64, 16055), (71, 16115), (73, 16151), (77, 16181), (87, 16253),

Gene: SorJuana_24 Start: 11819, Stop: 12721, Start Num: 15
Candidate Starts for SorJuana_24:
(Start: 15 @11819 has 13 MA's), (26, 11954), (29, 11981), (32, 11996), (50, 12131), (56, 12164), (76, 12338), (84, 12407),

Gene: SteakFry_43 Start: 16459, Stop: 17400, Start Num: 14
Candidate Starts for SteakFry_43:
(7, 16414), (9, 16426), (Start: 14 @16459 has 44 MA's), (30, 16645), (35, 16675), (44, 16726), (56, 16807), (61, 16855), (65, 16879), (76, 16996), (96, 17176), (99, 17197), (101, 17224), (108, 17311),

Gene: StevieWelch_41 Start: 16599, Stop: 17540, Start Num: 14
Candidate Starts for StevieWelch_41:
(7, 16554), (9, 16566), (Start: 14 @16599 has 44 MA's), (30, 16785), (35, 16815), (44, 16866), (56, 16947), (61, 16995), (65, 17019), (76, 17136), (80, 17190), (96, 17316), (99, 17337), (101, 17364),

Gene: Tandem_33 Start: 14687, Stop: 15673, Start Num: 14
Candidate Starts for Tandem_33:
(Start: 14 @14687 has 44 MA's), (26, 14828), (34, 14897), (35, 14900), (50, 15014), (53, 15038), (56, 15047), (63, 15113), (64, 15116), (77, 15254), (87, 15326),

Gene: Thunderclap_24 Start: 11839, Stop: 12741, Start Num: 15
Candidate Starts for Thunderclap_24:
(5, 11761), (8, 11788), (Start: 15 @11839 has 13 MA's), (26, 11974), (29, 12001), (32, 12016), (50, 12151), (56, 12184), (76, 12358), (84, 12427),

Gene: Uterion_39 Start: 15730, Stop: 16686, Start Num: 14
Candidate Starts for Uterion_39:
(Start: 14 @15730 has 44 MA's), (35, 15946), (44, 15997), (46, 16012), (53, 16069), (56, 16078), (63, 16144), (64, 16147), (71, 16207), (73, 16243), (77, 16273), (87, 16345),

Gene: WaterT_24 Start: 9983, Stop: 10867, Start Num: 14
Candidate Starts for WaterT_24:
(Start: 14 @9983 has 44 MA's), (34, 10181), (49, 10274), (70, 10427), (77, 10502), (83, 10559), (110, 10856),

Gene: Welcome_42 Start: 16616, Stop: 17557, Start Num: 14
Candidate Starts for Welcome_42:
(7, 16571), (9, 16583), (Start: 14 @16616 has 44 MA's), (30, 16802), (35, 16832), (44, 16883), (56, 16964), (61, 17012), (65, 17036), (76, 17153), (80, 17207), (96, 17333), (99, 17354), (101, 17381),

Gene: Wolfstar_36 Start: 15552, Stop: 16523, Start Num: 14
Candidate Starts for Wolfstar_36:
(Start: 14 @15552 has 44 MA's), (34, 15762), (35, 15765), (46, 15846), (50, 15879), (53, 15903), (63, 15978), (64, 15981), (77, 16107), (87, 16182),

Gene: Yappy_55 Start: 17814, Stop: 18776, Start Num: 12
Candidate Starts for Yappy_55:
(Start: 12 @17814 has 1 MA's), (Start: 14 @17823 has 44 MA's), (18, 17844), (26, 17973), (28, 17994), (29, 18000), (38, 18048), (40, 18057), (41, 18069), (48, 18135), (55, 18177), (59, 18210), (63, 18243), (77, 18366), (90, 18468), (94, 18525), (98, 18546),

Gene: Yeezus_23 Start: 11809, Stop: 12711, Start Num: 15
Candidate Starts for Yeezus_23:
(Start: 15 @11809 has 13 MA's), (26, 11944), (29, 11971), (32, 11986), (50, 12121), (56, 12154), (76, 12328), (84, 12397),

Gene: Yuma_40 Start: 16527, Stop: 17468, Start Num: 14
Candidate Starts for Yuma_40:
(7, 16482), (9, 16494), (Start: 14 @16527 has 44 MA's), (30, 16713), (35, 16743), (44, 16794), (56, 16875), (61, 16923), (65, 16947), (76, 17064), (96, 17244), (99, 17265), (101, 17292), (108, 17379),