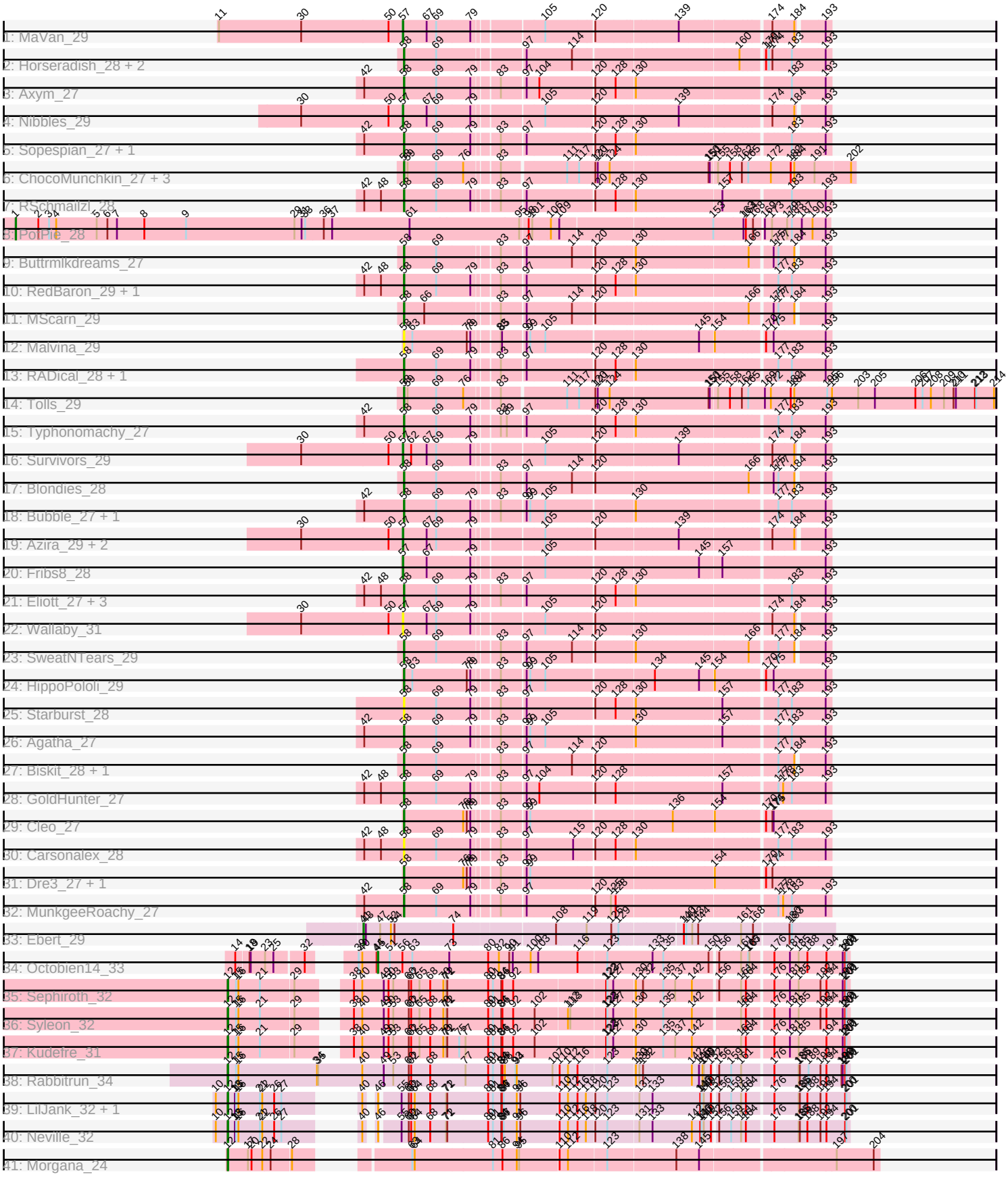
Pham 347661


1: MaVan_29
2: Horseradish_28 + 2
3: Axym_27
4: Nibbles_29
5: Sopespian_27 + 1
6: ChocoMunchkin_27 + 3
7: RSchmailzl_28
8: PotPie_28
9: Buttrmlkdreams_27
10: RedBaron_29 + 1
11: MScarn_29
12: Malvina_29
13: RADical_28 + 1
14: Tolls_29
15: Typhonomachy_27
16: Survivors_29
17: Blondies_28
18: Bubble_27 + 1
19: Azira_29 + 2
20: Fribs8_28
21: Eliott_27 + 3
22: Wallaby_31
23: SweatNTears_29
24: HippoPololi_29
25: Starburst_28
26: Agatha_27
27: Biskit_28 + 1
28: GoldHunter_27
29: Cleo_27
30: Carsonalex_28
31: Dre3_27 + 1
32: MunkgeeRoachy_27
33: Ebert_29
34: Octobien14_33
35: Sephiroth_32
36: Syleon_32
37: Kudefre_31
38: Rabbitrun_34
39: LilJank_32 + 1
40: Neville_32
41: Morgana_24

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 347661 Report

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

Pham number 347661 has 58 members, 11 are drafts.

Phages represented in each track:
- Track 1 : MaVan_29
- Track 2 : Horseradish_28, Yummy_28, Troje_27
- Track 3 : Axym_27
- Track 4 : Nibbles_29
- Track 5 : Sopespian_27, Burnsey_27
- Track 6 : ChocoMunchkin_27, CanesSauce_27, CaramelLatte_27, SteamedHams_29
- Track 7 : RSchmailzl_28
- Track 8 : PotPie_28
- Track 9 : Buttrmlkdreams_27
- Track 10 : RedBaron_29, Nina_28
- Track 11 : MScarn_29
- Track 12 : Malvina_29
- Track 13 : RADical_28, Quasar_27
- Track 14 : Tolls_29
- Track 15 : Typhonomachy_27
- Track 16 : Survivors_29
- Track 17 : Blondies_28
- Track 18 : Bubble_27, Cozz_27
- Track 19 : Azira_29, Wolfwood_29, Zareef_29
- Track 20 : Fribs8_28
- Track 21 : Eliott_27, ChickenTender_30, Socotra_28, PsychoKiller_27
- Track 22 : Wallaby_31
- Track 23 : SweatNTears_29
- Track 24 : HippoPololi_29
- Track 25 : Starburst_28
- Track 26 : Agatha_27
- Track 27 : Biskit_28, SketchMex_26
- Track 28 : GoldHunter_27
- Track 29 : Cleo_27
- Track 30 : Carsonalex_28
- Track 31 : Dre3_27, Gibbous_27
- Track 32 : MunkgeeRoachy_27
- Track 33 : Ebert_29
- Track 34 : Octobien14_33
- Track 35 : Sephiroth_32
- Track 36 : Syleon_32

• Track 37 : Kudefre_31
• Track 38 : Rabbitrun_34
• Track 39 : LilJank_32, Trax_32
• Track 40 : Neville_32
• Track 41 : Morgana_24

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

The start number called the most often in the published annotations is 58, it was called in 29 of the 47 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Agatha_27, Axym_27, Biskit_28, Blondies_28, Bubble_27, Burnsey_27, Buttrmlkdreams_27, CanesSauce_27, CaramelLatte_27, Carsonalex_28, ChickenTender_30, ChocoMunchkin_27, Cleo_27, Cozz_27, Dre3_27, Eliott_27, Gibbous_27, GoldHunter_27, HippoPololi_29, Horseradish_28, MScarn_29, Malvina_29, MunkgeeRoachy_27, Nina_28, PsychoKiller_27, Quasar_27, RADical_28, RSchmailzl_28, RedBaron_29, SketchMex_26, Socotra_28, Sopespian_27, Starburst_28, SteamedHams_29, SweatNTears_29, Tolls_29, Troje_27, Typhonomachy_27, Yummy_28,

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

Genes that do not have the "Most Annotated" start:
• Azira_29, Ebert_29, Fribs8_28, Kudefre_31, LilJank_32, MaVan_29, Morgana_24, Neville_32, Nibbles_29, Octobien14_33, PotPie_28, Rabbitrun_34, Sephiroth_32, Survivors_29, Syleon_32, Trax_32, Wallaby_31, Wolfwood_29, Zareef_29,

Summary by start number:

Start 1:
• Found in 1 of 58 (1.7%) of genes in pham
• Manual Annotations of this start: 1 of 47
• Called 100.0% of time when present
• Phage (with cluster) where this start called: PotPie_28 (CT),

Start 12:
• Found in 8 of 58 (13.8%) of genes in pham
• Manual Annotations of this start: 8 of 47
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Kudefre_31 (DU1), LilJank_32 (DU2), Morgana_24 (DZ), Neville_32 (DU2), Rabbitrun_34 (DU2), Sephiroth_32 (DU1), Syleon_32 (DU1), Trax_32 (DU2),

Start 41:
• Found in 1 of 58 (1.7%) of genes in pham
• Manual Annotations of this start: 1 of 47
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Ebert_29 (CZ2),

Start 45:
• Found in 1 of 58 (1.7%) of genes in pham
• Manual Annotations of this start: 1 of 47
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Octobien14_33 (DU1),

Start 57:
• Found in 8 of 58 (13.8%) of genes in pham
• Manual Annotations of this start: 7 of 47
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Azira_29 (CT), Fribs8_28 (CT), MaVan_29 (CT), Nibbles_29 (CT), Survivors_29 (CT), Wallaby_31 (CT), Wolfwood_29 (CT), Zareef_29 (CT),

Start 58:
• Found in 39 of 58 (67.2%) of genes in pham
• Manual Annotations of this start: 29 of 47
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Agatha_27 (CT), Axym_27 (CT), Biskit_28 (CT), Blondies_28 (CT), Bubble_27 (CT), Burnsey_27 (CT), Buttrmlkdreams_27 (CT), CanesSauce_27 (CT), CaramelLatte_27 (CT), Carsonalex_28 (CT), ChickenTender_30 (CT), ChocoMunchkin_27 (CT), Cleo_27 (CT), Cozz_27 (CT), Dre3_27 (CT), Eliott_27 (CT), Gibbous_27 (CT), GoldHunter_27 (CT), HippoPololi_29 (CT), Horseradish_28 (CT), MScarn_29 (CT), Malvina_29 (CT), MunkgeeRoachy_27 (CT), Nina_28 (CT), PsychoKiller_27 (CT), Quasar_27 (CT), RADical_28 (CT), RSchmailzl_28 (CT), RedBaron_29 (CT), SketchMex_26 (CT), Socotra_28 (CT), Sopespian_27 (CT), Starburst_28 (CT), SteamedHams_29 (CT), SweatNTears_29 (CT), Tolls_29 (CT), Troje_27 (CT), Typhonomachy_27 (CT), Yummy_28 (CT),

Summary by clusters:

There are 5 clusters represented in this pham: CZ2, DU1, DU2, DZ, CT,

Info for manual annotations of cluster CT:
•Start number 1 was manually annotated 1 time for cluster CT.
•Start number 57 was manually annotated 7 times for cluster CT.
•Start number 58 was manually annotated 29 times for cluster CT.

Info for manual annotations of cluster CZ2:
•Start number 41 was manually annotated 1 time for cluster CZ2.

Info for manual annotations of cluster DU1:
•Start number 12 was manually annotated 3 times for cluster DU1.
•Start number 45 was manually annotated 1 time for cluster DU1.

Info for manual annotations of cluster DU2:
•Start number 12 was manually annotated 4 times for cluster DU2.

Info for manual annotations of cluster DZ:
•Start number 12 was manually annotated 1 time for cluster DZ.

Gene Information:

Gene: Agatha_27 Start: 21963, Stop: 22928, Start Num: 58
Candidate Starts for Agatha_27:
(42, 21864), (Start: 58 @21963 has 29 MA's), (69, 22044), (79, 22128), (83, 22182), (97, 22239), (99, 22248), (105, 22284), (130, 22482), (157, 22677), (177, 22797), (183, 22830), (193, 22914),

Gene: Axym_27 Start: 21966, Stop: 22931, Start Num: 58
Candidate Starts for Axym_27:
(42, 21867), (Start: 58 @21966 has 29 MA's), (69, 22047), (79, 22131), (83, 22185), (97, 22242), (104, 22272), (120, 22395), (128, 22443), (130, 22485), (183, 22833), (193, 22917),

Gene: Azira_29 Start: 22942, Stop: 23892, Start Num: 57
Candidate Starts for Azira_29:
(30, 22687), (50, 22906), (Start: 57 @22942 has 7 MA's), (67, 22999), (69, 23023), (79, 23107), (105, 23263), (120, 23371), (139, 23557), (174, 23764), (184, 23815), (193, 23878),

Gene: Biskit_28 Start: 21620, Stop: 22570, Start Num: 58
Candidate Starts for Biskit_28:
(Start: 58 @21620 has 29 MA's), (69, 21701), (83, 21839), (97, 21896), (114, 22004), (120, 22049), (177, 22454), (184, 22493), (193, 22556),

Gene: Blondies_28 Start: 21603, Stop: 22553, Start Num: 58
Candidate Starts for Blondies_28:
(Start: 58 @21603 has 29 MA's), (69, 21684), (83, 21822), (97, 21879), (114, 21987), (120, 22032), (166, 22380), (175, 22428), (177, 22437), (184, 22476), (193, 22539),

Gene: Bubble_27 Start: 21966, Stop: 22931, Start Num: 58
Candidate Starts for Bubble_27:
(42, 21867), (Start: 58 @21966 has 29 MA's), (69, 22047), (79, 22131), (83, 22185), (97, 22242), (99, 22251), (105, 22287), (130, 22485), (177, 22800), (183, 22833), (193, 22917),

Gene: Burnsey_27 Start: 21967, Stop: 22923, Start Num: 58
Candidate Starts for Burnsey_27:
(42, 21868), (Start: 58 @21967 has 29 MA's), (69, 22048), (79, 22132), (83, 22186), (97, 22234), (120, 22387), (128, 22435), (130, 22477), (183, 22825), (193, 22909),

Gene: Buttrmlkdreams_27 Start: 21602, Stop: 22552, Start Num: 58
Candidate Starts for Buttrmlkdreams_27:
(Start: 58 @21602 has 29 MA's), (69, 21683), (83, 21821), (97, 21878), (114, 21986), (120, 22031), (130, 22121), (166, 22379), (175, 22427), (177, 22436), (184, 22475), (193, 22538),

Gene: CanesSauce_27 Start: 21648, Stop: 22691, Start Num: 58
Candidate Starts for CanesSauce_27:
(Start: 58 @21648 has 29 MA's), (59, 21657), (69, 21729), (76, 21795), (83, 21867), (111, 22014), (117, 22041), (120, 22080), (121, 22086), (124, 22116), (150, 22341), (151, 22344), (155, 22359), (158, 22389), (162, 22419), (165, 22434), (172, 22491), (182, 22539), (184, 22548), (191, 22596), (202, 22680),

Gene: CaramelLatte_27 Start: 21648, Stop: 22691, Start Num: 58
Candidate Starts for CaramelLatte_27:

(Start: 58 @21648 has 29 MA's), (59, 21657), (69, 21729), (76, 21795), (83, 21867), (111, 22014), (117, 22041), (120, 22080), (121, 22086), (124, 22116), (150, 22341), (151, 22344), (155, 22359), (158, 22389), (162, 22419), (165, 22434), (172, 22491), (182, 22539), (184, 22548), (191, 22596), (202, 22680),

Gene: Carsonalex_28 Start: 22024, Stop: 22989, Start Num: 58
Candidate Starts for Carsonalex_28:
(42, 21925), (48, 21967), (Start: 58 @22024 has 29 MA's), (69, 22105), (79, 22189), (83, 22243), (97, 22300), (115, 22411), (120, 22453), (128, 22501), (130, 22543), (177, 22858), (183, 22891), (193, 22975),

Gene: ChickenTender_30 Start: 22240, Stop: 23205, Start Num: 58
Candidate Starts for ChickenTender_30:
(42, 22141), (48, 22183), (Start: 58 @22240 has 29 MA's), (69, 22321), (79, 22405), (83, 22459), (97, 22516), (120, 22669), (128, 22717), (130, 22759), (183, 23107), (193, 23191),

Gene: ChocoMunchkin_27 Start: 21648, Stop: 22691, Start Num: 58
Candidate Starts for ChocoMunchkin_27:
(Start: 58 @21648 has 29 MA's), (59, 21657), (69, 21729), (76, 21795), (83, 21867), (111, 22014), (117, 22041), (120, 22080), (121, 22086), (124, 22116), (150, 22341), (151, 22344), (155, 22359), (158, 22389), (162, 22419), (165, 22434), (172, 22491), (182, 22539), (184, 22548), (191, 22596), (202, 22680),

Gene: Cleo_27 Start: 22293, Stop: 23258, Start Num: 58
Candidate Starts for Cleo_27:
(Start: 58 @22293 has 29 MA's), (76, 22440), (78, 22449), (79, 22458), (83, 22512), (97, 22569), (99, 22578), (136, 22896), (154, 22989), (170, 23100), (174, 23115), (175, 23118),

Gene: Cozz_27 Start: 21967, Stop: 22932, Start Num: 58
Candidate Starts for Cozz_27:
(42, 21868), (Start: 58 @21967 has 29 MA's), (69, 22048), (79, 22132), (83, 22186), (97, 22243), (99, 22252), (105, 22288), (130, 22486), (177, 22801), (183, 22834), (193, 22918),

Gene: Dre3_27 Start: 22219, Stop: 23184, Start Num: 58
Candidate Starts for Dre3_27:
(Start: 58 @22219 has 29 MA's), (76, 22366), (78, 22375), (79, 22384), (83, 22438), (97, 22495), (99, 22504), (154, 22915), (170, 23026), (174, 23041),

Gene: Ebert_29 Start: 23678, Stop: 24772, Start Num: 41
Candidate Starts for Ebert_29:
(Start: 41 @23678 has 1 MA's), (43, 23684), (47, 23717), (52, 23744), (54, 23753), (74, 23894), (108, 24128), (119, 24200), (126, 24260), (129, 24278), (140, 24419), (141, 24425), (143, 24440), (144, 24455), (161, 24557), (168, 24584), (180, 24662), (183, 24668),

Gene: Eliott_27 Start: 21966, Stop: 22931, Start Num: 58
Candidate Starts for Eliott_27:
(42, 21867), (48, 21909), (Start: 58 @21966 has 29 MA's), (69, 22047), (79, 22131), (83, 22185), (97, 22242), (120, 22395), (128, 22443), (130, 22485), (183, 22833), (193, 22917),

Gene: Fribs8_28 Start: 22797, Stop: 23762, Start Num: 57
Candidate Starts for Fribs8_28:
(Start: 57 @22797 has 7 MA's), (67, 22854), (79, 22962), (105, 23118), (145, 23460), (157, 23511), (193, 23748),

Gene: Gibbous_27 Start: 22219, Stop: 23184, Start Num: 58
Candidate Starts for Gibbous_27:
(Start: 58 @22219 has 29 MA's), (76, 22366), (78, 22375), (79, 22384), (83, 22438), (97, 22495), (99, 22504), (154, 22915), (170, 23026), (174, 23041),

Gene: GoldHunter_27 Start: 21967, Stop: 22932, Start Num: 58
Candidate Starts for GoldHunter_27:
(42, 21868), (48, 21910), (Start: 58 @21967 has 29 MA's), (69, 22048), (79, 22132), (83, 22186), (97, 22243), (104, 22273), (120, 22396), (128, 22444), (157, 22681), (177, 22801), (178, 22813), (183, 22834), (193, 22918),

Gene: HippoPololi_29 Start: 22868, Stop: 23833, Start Num: 58
Candidate Starts for HippoPololi_29:
(Start: 58 @22868 has 29 MA's), (63, 22889), (78, 23024), (79, 23033), (83, 23087), (97, 23144), (99, 23153), (105, 23189), (134, 23429), (145, 23531), (154, 23564), (170, 23675), (175, 23693), (193, 23819),

Gene: Horseradish_28 Start: 21441, Stop: 22406, Start Num: 58
Candidate Starts for Horseradish_28:
(Start: 58 @21441 has 29 MA's), (69, 21522), (97, 21717), (114, 21825), (160, 22197), (170, 22248), (171, 22254), (174, 22263), (183, 22308), (193, 22392),

Gene: Kudefre_31 Start: 26003, Stop: 27445, Start Num: 12
Candidate Starts for Kudefre_31:
(Start: 12 @26003 has 8 MA's), (15, 26024), (16, 26030), (21, 26084), (29, 26165), (38, 26258), (40, 26279), (49, 26333), (50, 26345), (53, 26357), (60, 26396), (62, 26402), (65, 26423), (68, 26450), (70, 26480), (71, 26483), (72, 26486), (75, 26513), (77, 26528), (80, 26585), (81, 26597), (84, 26618), (86, 26621), (92, 26648), (102, 26702), (122, 26870), (123, 26873), (127, 26888), (130, 26939), (135, 27008), (137, 27038), (142, 27077), (161, 27188), (164, 27200), (176, 27260), (181, 27299), (185, 27320), (194, 27389), (199, 27428), (200, 27434), (201, 27437),

Gene: LilJank_32 Start: 27770, Stop: 29125, Start Num: 12
Candidate Starts for LilJank_32:
(10, 27740), (Start: 12 @27770 has 8 MA's), (13, 27788), (15, 27791), (16, 27797), (21, 27851), (22, 27857), (26, 27887), (27, 27905), (40, 27998), (46, 28013), (55, 28058), (60, 28076), (62, 28082), (64, 28091), (68, 28130), (71, 28163), (72, 28166), (80, 28265), (81, 28277), (84, 28298), (86, 28301), (87, 28304), (94, 28337), (96, 28346), (110, 28439), (112, 28460), (116, 28484), (118, 28505), (120, 28523), (123, 28553), (131, 28628), (133, 28661), (146, 28778), (147, 28781), (149, 28787), (152, 28805), (156, 28814), (159, 28844), (161, 28868), (164, 28880), (176, 28940), (185, 29000), (186, 29003), (188, 29021), (192, 29054), (194, 29069), (200, 29114), (201, 29117),

Gene: MScarn_29 Start: 21605, Stop: 22555, Start Num: 58
Candidate Starts for MScarn_29:
(Start: 58 @21605 has 29 MA's), (66, 21656), (83, 21824), (97, 21881), (114, 21989), (120, 22034), (166, 22382), (175, 22430), (177, 22439), (184, 22478), (193, 22541),

Gene: MaVan_29 Start: 22975, Stop: 23925, Start Num: 57
Candidate Starts for MaVan_29:
(11, 22513), (30, 22720), (50, 22939), (Start: 57 @22975 has 7 MA's), (67, 23032), (69, 23056), (79, 23140), (105, 23296), (120, 23404), (139, 23590), (174, 23797), (184, 23848), (193, 23911),

Gene: Malvina_29 Start: 22871, Stop: 23836, Start Num: 58

Candidate Starts for Malvina_29:
(Start: 58 @22871 has 29 MA's), (63, 22892), (78, 23027), (79, 23036), (83, 23090), (85, 23093), (97, 23147), (99, 23156), (105, 23192), (145, 23534), (154, 23567), (170, 23678), (175, 23696), (193, 23822),

Gene: Morgana_24 Start: 21426, Stop: 22886, Start Num: 12
Candidate Starts for Morgana_24:
(Start: 12 @21426 has 8 MA's), (17, 21477), (20, 21486), (22, 21513), (24, 21531), (28, 21579), (63, 21759), (64, 21765), (81, 21954), (86, 21978), (94, 22014), (95, 22020), (110, 22116), (112, 22137), (123, 22230), (138, 22398), (145, 22455), (197, 22779), (204, 22872),

Gene: MunkgeeRoachy_27 Start: 22044, Stop: 23009, Start Num: 58
Candidate Starts for MunkgeeRoachy_27:
(42, 21945), (Start: 58 @22044 has 29 MA's), (69, 22125), (79, 22209), (83, 22263), (97, 22320), (120, 22473), (125, 22512), (128, 22521), (177, 22878), (178, 22890), (183, 22911), (193, 22995),

Gene: Neville_32 Start: 27410, Stop: 28765, Start Num: 12
Candidate Starts for Neville_32:
(10, 27380), (Start: 12 @27410 has 8 MA's), (13, 27428), (15, 27431), (16, 27437), (21, 27491), (22, 27497), (26, 27527), (27, 27545), (40, 27638), (46, 27653), (55, 27698), (60, 27716), (62, 27722), (64, 27731), (68, 27770), (71, 27803), (72, 27806), (80, 27905), (81, 27917), (84, 27938), (86, 27941), (87, 27944), (94, 27977), (96, 27986), (110, 28079), (112, 28100), (116, 28124), (118, 28145), (120, 28163), (123, 28193), (131, 28268), (133, 28301), (142, 28397), (146, 28418), (147, 28421), (149, 28427), (152, 28445), (156, 28454), (159, 28484), (161, 28508), (164, 28520), (176, 28580), (185, 28640), (186, 28643), (188, 28661), (192, 28694), (194, 28709), (200, 28754), (201, 28757),

Gene: Nibbles_29 Start: 22974, Stop: 23924, Start Num: 57
Candidate Starts for Nibbles_29:
(30, 22719), (50, 22938), (Start: 57 @22974 has 7 MA's), (67, 23031), (69, 23055), (79, 23139), (105, 23295), (120, 23403), (139, 23589), (174, 23796), (184, 23847), (193, 23910),

Gene: Nina_28 Start: 23006, Stop: 23971, Start Num: 58
Candidate Starts for Nina_28:
(42, 22907), (48, 22949), (Start: 58 @23006 has 29 MA's), (69, 23087), (79, 23171), (83, 23225), (97, 23282), (120, 23435), (128, 23483), (130, 23525), (177, 23840), (183, 23873), (193, 23957),

Gene: Octobien14_33 Start: 26995, Stop: 28125, Start Num: 45
Candidate Starts for Octobien14_33:
(14, 26731), (18, 26761), (19, 26764), (23, 26800), (25, 26821), (32, 26887), (39, 26947), (40, 26956), (44, 26992), (Start: 45 @26995 has 1 MA's), (51, 27022), (56, 27052), (63, 27076), (73, 27163), (80, 27259), (82, 27286), (90, 27310), (91, 27319), (100, 27361), (103, 27379), (116, 27478), (123, 27547), (133, 27661), (135, 27688), (150, 27799), (156, 27814), (161, 27868), (165, 27886), (167, 27889), (176, 27940), (181, 27979), (185, 28000), (188, 28021), (194, 28069), (199, 28108), (200, 28114), (201, 28117),

Gene: PotPie_28 Start: 22694, Stop: 24688, Start Num: 1
Candidate Starts for PotPie_28:
(Start: 1 @22694 has 1 MA's), (2, 22751), (3, 22778), (4, 22796), (5, 22898), (6, 22925), (7, 22949), (8, 23018), (9, 23123), (29, 23396), (31, 23414), (33, 23423), (36, 23468), (37, 23489), (61, 23684), (95, 23957), (98, 23975), (101, 23984), (106, 24029), (109, 24050), (153, 24410), (163, 24485), (164, 24491), (168, 24509), (169, 24530), (173, 24548), (179, 24581), (183, 24593), (187, 24617), (190, 24644), (193, 24677),

Gene: PsychoKiller_27 Start: 21966, Stop: 22931, Start Num: 58
Candidate Starts for PsychoKiller_27:
(42, 21867), (48, 21909), (Start: 58 @21966 has 29 MA's), (69, 22047), (79, 22131), (83, 22185), (97, 22242), (120, 22395), (128, 22443), (130, 22485), (183, 22833), (193, 22917),

Gene: Quasar_27 Start: 22575, Stop: 23540, Start Num: 58
Candidate Starts for Quasar_27:
(Start: 58 @22575 has 29 MA's), (69, 22656), (79, 22740), (83, 22794), (97, 22851), (120, 23004), (128, 23052), (130, 23094), (177, 23409), (183, 23442), (193, 23526),

Gene: RADical_28 Start: 21967, Stop: 22932, Start Num: 58
Candidate Starts for RADical_28:
(Start: 58 @21967 has 29 MA's), (69, 22048), (79, 22132), (83, 22186), (97, 22243), (120, 22396), (128, 22444), (130, 22486), (177, 22801), (183, 22834), (193, 22918),

Gene: RSchmailzl_28 Start: 22110, Stop: 23075, Start Num: 58
Candidate Starts for RSchmailzl_28:
(42, 22011), (48, 22053), (Start: 58 @22110 has 29 MA's), (69, 22191), (79, 22275), (83, 22329), (97, 22386), (120, 22539), (128, 22587), (130, 22629), (157, 22824), (183, 22977), (193, 23061),

Gene: Rabbitrun_34 Start: 27724, Stop: 29229, Start Num: 12
Candidate Starts for Rabbitrun_34:
(Start: 12 @27724 has 8 MA's), (15, 27745), (16, 27751), (34, 27949), (35, 27952), (40, 28063), (49, 28117), (53, 28141), (60, 28180), (62, 28186), (68, 28234), (77, 28312), (80, 28369), (81, 28381), (84, 28402), (86, 28405), (88, 28411), (93, 28438), (94, 28441), (107, 28531), (110, 28543), (112, 28564), (116, 28588), (123, 28657), (130, 28723), (131, 28732), (132, 28741), (142, 28861), (145, 28879), (148, 28888), (149, 28891), (152, 28909), (156, 28918), (159, 28948), (161, 28972), (176, 29044), (185, 29104), (186, 29107), (189, 29128), (192, 29158), (194, 29173), (198, 29209), (199, 29212), (200, 29218), (201, 29221),

Gene: RedBaron_29 Start: 22010, Stop: 22975, Start Num: 58
Candidate Starts for RedBaron_29:
(42, 21911), (48, 21953), (Start: 58 @22010 has 29 MA's), (69, 22091), (79, 22175), (83, 22229), (97, 22286), (120, 22439), (128, 22487), (130, 22529), (177, 22844), (183, 22877), (193, 22961),

Gene: Sephiroth_32 Start: 26174, Stop: 27616, Start Num: 12
Candidate Starts for Sephiroth_32:
(Start: 12 @26174 has 8 MA's), (15, 26195), (16, 26201), (21, 26255), (29, 26336), (38, 26429), (40, 26450), (49, 26504), (50, 26516), (53, 26528), (60, 26567), (62, 26573), (65, 26594), (68, 26621), (70, 26651), (71, 26654), (72, 26657), (80, 26756), (81, 26768), (84, 26789), (86, 26792), (92, 26819), (122, 27041), (123, 27044), (127, 27059), (130, 27110), (132, 27128), (135, 27179), (137, 27209), (142, 27248), (156, 27305), (161, 27359), (164, 27371), (176, 27431), (181, 27470), (185, 27491), (192, 27545), (194, 27560), (199, 27599), (200, 27605), (201, 27608),

Gene: SketchMex_26 Start: 21620, Stop: 22570, Start Num: 58
Candidate Starts for SketchMex_26:
(Start: 58 @21620 has 29 MA's), (69, 21701), (83, 21839), (97, 21896), (114, 22004), (120, 22049), (177, 22454), (184, 22493), (193, 22556),

Gene: Socotra_28 Start: 21966, Stop: 22931, Start Num: 58
Candidate Starts for Socotra_28:
(42, 21867), (48, 21909), (Start: 58 @21966 has 29 MA's), (69, 22047), (79, 22131), (83, 22185), (97, 22242), (120, 22395), (128, 22443), (130, 22485), (183, 22833), (193, 22917),

Gene: Sopespian_27 Start: 21967, Stop: 22932, Start Num: 58
Candidate Starts for Sopespian_27:
(42, 21868), (Start: 58 @21967 has 29 MA's), (69, 22048), (79, 22132), (83, 22186), (97, 22243), (120, 22396), (128, 22444), (130, 22486), (183, 22834), (193, 22918),

Gene: Starburst_28 Start: 21967, Stop: 22932, Start Num: 58
Candidate Starts for Starburst_28:
(Start: 58 @21967 has 29 MA's), (69, 22048), (79, 22132), (83, 22186), (97, 22243), (120, 22396), (128, 22444), (130, 22486), (157, 22681), (177, 22801), (183, 22834), (193, 22918),

Gene: SteamedHams_29 Start: 21624, Stop: 22667, Start Num: 58
Candidate Starts for SteamedHams_29:
(Start: 58 @21624 has 29 MA's), (59, 21633), (69, 21705), (76, 21771), (83, 21843), (111, 21990), (117, 22017), (120, 22056), (121, 22062), (124, 22092), (150, 22317), (151, 22320), (155, 22335), (158, 22365), (162, 22395), (165, 22410), (172, 22467), (182, 22515), (184, 22524), (191, 22572), (202, 22656),

Gene: Survivors_29 Start: 22791, Stop: 23741, Start Num: 57
Candidate Starts for Survivors_29:
(30, 22536), (50, 22755), (Start: 57 @22791 has 7 MA's), (62, 22809), (67, 22848), (69, 22872), (79, 22956), (105, 23112), (120, 23220), (139, 23406), (174, 23613), (184, 23664), (193, 23727),

Gene: SweatNTears_29 Start: 21888, Stop: 22838, Start Num: 58
Candidate Starts for SweatNTears_29:
(Start: 58 @21888 has 29 MA's), (69, 21969), (83, 22107), (97, 22164), (114, 22272), (120, 22317), (130, 22407), (166, 22665), (177, 22722), (184, 22761), (193, 22824),

Gene: Syleon_32 Start: 26096, Stop: 27538, Start Num: 12
Candidate Starts for Syleon_32:
(Start: 12 @26096 has 8 MA's), (15, 26117), (16, 26123), (21, 26177), (29, 26258), (38, 26351), (40, 26372), (49, 26426), (50, 26438), (53, 26450), (60, 26489), (62, 26495), (65, 26516), (68, 26543), (70, 26573), (71, 26576), (72, 26579), (80, 26678), (81, 26690), (84, 26711), (86, 26714), (92, 26741), (102, 26795), (112, 26873), (113, 26879), (122, 26963), (123, 26966), (127, 26981), (130, 27032), (135, 27101), (142, 27170), (161, 27281), (164, 27293), (176, 27353), (181, 27392), (185, 27413), (192, 27467), (194, 27482), (199, 27521), (200, 27527), (201, 27530),

Gene: Tolls_29 Start: 21618, Stop: 23021, Start Num: 58
Candidate Starts for Tolls_29:
(Start: 58 @21618 has 29 MA's), (59, 21627), (69, 21699), (76, 21765), (83, 21837), (111, 21984), (117, 22011), (120, 22050), (121, 22056), (124, 22086), (150, 22311), (151, 22314), (155, 22329), (158, 22359), (162, 22389), (165, 22404), (169, 22446), (172, 22461), (182, 22509), (184, 22518), (195, 22596), (196, 22608), (203, 22674), (205, 22716), (206, 22818), (207, 22836), (208, 22857), (209, 22890), (210, 22914), (211, 22920), (212, 22968), (213, 22971), (214, 23016),

Gene: Trax_32 Start: 27716, Stop: 29071, Start Num: 12
Candidate Starts for Trax_32:
(10, 27686), (Start: 12 @27716 has 8 MA's), (13, 27734), (15, 27737), (16, 27743), (21, 27797), (22, 27803), (26, 27833), (27, 27851), (40, 27944), (46, 27959), (55, 28004), (60, 28022), (62, 28028), (64, 28037), (68, 28076), (71, 28109), (72, 28112), (80, 28211), (81, 28223), (84, 28244), (86, 28247), (87, 28250), (94, 28283), (96, 28292), (110, 28385), (112, 28406), (116, 28430), (118, 28451), (120, 28469), (123, 28499), (131, 28574), (133, 28607), (146, 28724), (147, 28727), (149, 28733), (152, 28751), (156, 28760), (159, 28790), (161, 28814), (164, 28826), (176, 28886), (185, 28946), (186,

28949), (188, 28967), (192, 29000), (194, 29015), (200, 29060), (201, 29063),

Gene: Troje_27 Start: 21602, Stop: 22567, Start Num: 58
Candidate Starts for Troje_27:
(Start: 58 @21602 has 29 MA's), (69, 21683), (97, 21878), (114, 21986), (160, 22358), (170, 22409), (171, 22415), (174, 22424), (183, 22469), (193, 22553),

Gene: Typhonomachy_27 Start: 21999, Stop: 22964, Start Num: 58
Candidate Starts for Typhonomachy_27:
(42, 21900), (Start: 58 @21999 has 29 MA's), (69, 22080), (79, 22164), (83, 22218), (89, 22233), (97, 22275), (120, 22428), (128, 22476), (130, 22518), (177, 22833), (183, 22866), (193, 22950),

Gene: Wallaby_31 Start: 22935, Stop: 23885, Start Num: 57
Candidate Starts for Wallaby_31:
(30, 22680), (50, 22899), (Start: 57 @22935 has 7 MA's), (67, 22992), (69, 23016), (79, 23100), (105, 23256), (120, 23364), (174, 23757), (184, 23808), (193, 23871),

Gene: Wolfwood_29 Start: 22935, Stop: 23885, Start Num: 57
Candidate Starts for Wolfwood_29:
(30, 22680), (50, 22899), (Start: 57 @22935 has 7 MA's), (67, 22992), (69, 23016), (79, 23100), (105, 23256), (120, 23364), (139, 23550), (174, 23757), (184, 23808), (193, 23871),

Gene: Yummy_28 Start: 21555, Stop: 22520, Start Num: 58
Candidate Starts for Yummy_28:
(Start: 58 @21555 has 29 MA's), (69, 21636), (97, 21831), (114, 21939), (160, 22311), (170, 22362), (171, 22368), (174, 22377), (183, 22422), (193, 22506),

Gene: Zareef_29 Start: 22943, Stop: 23893, Start Num: 57
Candidate Starts for Zareef_29:
(30, 22688), (50, 22907), (Start: 57 @22943 has 7 MA's), (67, 23000), (69, 23024), (79, 23108), (105, 23264), (120, 23372), (139, 23558), (174, 23765), (184, 23816), (193, 23879),