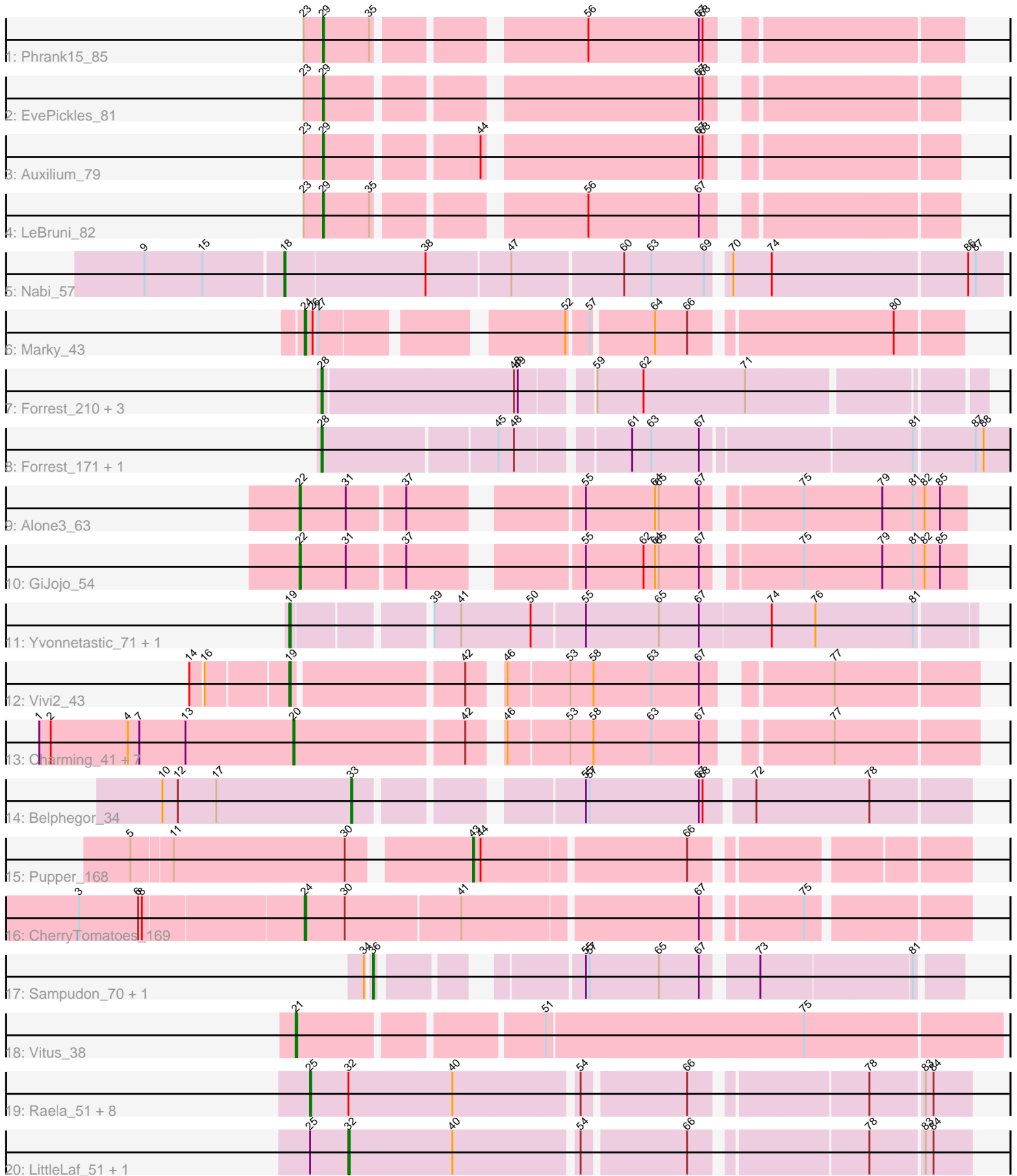


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 311762 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311762 has 42 members, 0 are drafts.

Phages represented in each track:

- Track 1 : Phrank15\_85
- Track 2 : EvePickles\_81
- Track 3 : Auxilium\_79
- Track 4 : LeBruni\_82
- Track 5 : Nabi\_57
- Track 6 : Marky\_43
- Track 7 : Forrest\_210, Phredrick\_212, DeluluLabubu\_212, Emma1919\_210
- Track 8 : Forrest\_171, Jada\_168
- Track 9 : Alone3\_63
- Track 10 : GiJojo\_54
- Track 11 : Yvonnetastic\_71, JonJames\_73
- Track 12 : Vivi2\_43
- Track 13 : Charming\_41, Paries\_43, Nordenberg\_35, Tangent\_41, Love\_44, Rofo\_41, BobBob\_38, Brandonk123\_42
- Track 14 : Belphegor\_34
- Track 15 : Pupper\_168
- Track 16 : CherryTomatoes\_169
- Track 17 : Sampudon\_70, Jalebi\_69
- Track 18 : Vitus\_38
- Track 19 : Raela\_51, Beelzebub\_55, Poise\_51, Clarkson\_52, Pringar\_51, Lilbit\_50, Huphlepuuff\_53, Blackbeetle\_51, VasuNzinga\_51
- Track 20 : LittleLaf\_51, GoongGoong\_50

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

The start number called the most often in the published annotations is 25, it was called in 9 of the 42 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Beelzebub\_55, Blackbeetle\_51, Clarkson\_52, Huphlepuuff\_53, Lilbit\_50, Poise\_51, Pringar\_51, Raela\_51, VasuNzinga\_51,

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

- GoongGoong\_50, LittleLaf\_51,

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

- Alone3\_63, Auxilium\_79, Belphegor\_34, BobBob\_38, Brandonk123\_42, Charming\_41, CherryTomatoes\_169, DeluluLabubu\_212, Emma1919\_210, EvePickles\_81, Forrest\_171, Forrest\_210, GiJojo\_54, Jada\_168, Jalebi\_69, JonJames\_73, LeBruni\_82, Love\_44, Marky\_43, Nabi\_57, Nordenberg\_35, Paries\_43, Phrank15\_85, Phredrick\_212, Pupper\_168, Rofo\_41, Sampudon\_70, Tangent\_41, Vitus\_38, Vivi2\_43, Yvonnestic\_71,

**Summary by start number:**

Start 18:

- Found in 1 of 42 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 1 of 42
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Nabi\_57 (BD1),

Start 19:

- Found in 3 of 42 ( 7.1% ) of genes in pham
- Manual Annotations of this start: 3 of 42
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JonJames\_73 (DD), Vivi2\_43 (DE1), Yvonnestic\_71 (DD),

Start 20:

- Found in 8 of 42 ( 19.0% ) of genes in pham
- Manual Annotations of this start: 8 of 42
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BobBob\_38 (DE1), Brandonk123\_42 (DE1), Charming\_41 (DE1), Love\_44 (DE1), Nordenberg\_35 (DE1), Paries\_43 (DE1), Rofo\_41 (DE1), Tangent\_41 (DE1),

Start 21:

- Found in 1 of 42 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 1 of 42
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Vitus\_38 (FL),

Start 22:

- Found in 2 of 42 ( 4.8% ) of genes in pham
- Manual Annotations of this start: 2 of 42
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alone3\_63 (BS), GiJojo\_54 (BS),

Start 24:

- Found in 2 of 42 ( 4.8% ) of genes in pham
- Manual Annotations of this start: 2 of 42
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CherryTomatoes\_169 (DO), Marky\_43 (BH),

Start 25:

- Found in 11 of 42 ( 26.2% ) of genes in pham

- Manual Annotations of this start: 9 of 42
- Called 81.8% of time when present
- Phage (with cluster) where this start called: Beelzebub\_55 (S), Blackbeetle\_51 (S), Clarkson\_52 (S), Huphlepuuff\_53 (S), Lilbit\_50 (S), Poise\_51 (S), Pringar\_51 (S), Raela\_51 (S), VasuNzinga\_51 (S),

#### Start 28:

- Found in 6 of 42 ( 14.3% ) of genes in pham
- Manual Annotations of this start: 6 of 42
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DeluluLabubu\_212 (BK1), Emma1919\_210 (BK1), Forrest\_171 (BK1), Forrest\_210 (BK1), Jada\_168 (BK1), Phredrick\_212 (BK1),

#### Start 29:

- Found in 4 of 42 ( 9.5% ) of genes in pham
- Manual Annotations of this start: 4 of 42
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Auxilium\_79 (AY), EvePickles\_81 (AY), LeBruni\_82 (AY), Phrank15\_85 (AY),

#### Start 32:

- Found in 11 of 42 ( 26.2% ) of genes in pham
- Manual Annotations of this start: 2 of 42
- Called 18.2% of time when present
- Phage (with cluster) where this start called: GoongGoong\_50 (S), LittleLaf\_51 (S),

#### Start 33:

- Found in 1 of 42 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 1 of 42
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Belphegor\_34 (DE2),

#### Start 36:

- Found in 2 of 42 ( 4.8% ) of genes in pham
- Manual Annotations of this start: 2 of 42
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jalebi\_69 (DV), Sampudon\_70 (DV),

#### Start 43:

- Found in 1 of 42 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 1 of 42
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pupper\_168 (DO),

### Summary by clusters:

There are 12 clusters represented in this pham: DO, DE1, DD, BH, DV, S, BD1, BK1, BS, AY, FL, DE2,

Info for manual annotations of cluster AY:

- Start number 29 was manually annotated 4 times for cluster AY.

Info for manual annotations of cluster BD1:

- Start number 18 was manually annotated 1 time for cluster BD1.

Info for manual annotations of cluster BH:

- Start number 24 was manually annotated 1 time for cluster BH.

Info for manual annotations of cluster BK1:

- Start number 28 was manually annotated 6 times for cluster BK1.

Info for manual annotations of cluster BS:

- Start number 22 was manually annotated 2 times for cluster BS.

Info for manual annotations of cluster DD:

- Start number 19 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DE1:

- Start number 19 was manually annotated 1 time for cluster DE1.
- Start number 20 was manually annotated 8 times for cluster DE1.

Info for manual annotations of cluster DE2:

- Start number 33 was manually annotated 1 time for cluster DE2.

Info for manual annotations of cluster DO:

- Start number 24 was manually annotated 1 time for cluster DO.
- Start number 43 was manually annotated 1 time for cluster DO.

Info for manual annotations of cluster DV:

- Start number 36 was manually annotated 2 times for cluster DV.

Info for manual annotations of cluster FL:

- Start number 21 was manually annotated 1 time for cluster FL.

Info for manual annotations of cluster S:

- Start number 25 was manually annotated 9 times for cluster S.
- Start number 32 was manually annotated 2 times for cluster S.

### ***Gene Information:***

Gene: Alone3\_63 Start: 21624, Stop: 22094, Start Num: 22

Candidate Starts for Alone3\_63:

(Start: 22 @21624 has 2 MA's), (31, 21660), (37, 21702), (55, 21816), (64, 21870), (65, 21873), (67, 21903), (75, 21969), (79, 22029), (81, 22053), (82, 22062), (85, 22074),

Gene: Auxilium\_79 Start: 44205, Stop: 44636, Start Num: 29

Candidate Starts for Auxilium\_79:

(23, 44190), (Start: 29 @44205 has 4 MA's), (44, 44313), (67, 44466), (68, 44469),

Gene: Beelzebub\_55 Start: 29418, Stop: 29891, Start Num: 25

Candidate Starts for Beelzebub\_55:

(Start: 25 @29418 has 9 MA's), (Start: 32 @29448 has 2 MA's), (40, 29529), (54, 29619), (66, 29694), (78, 29817), (83, 29856), (84, 29862),

Gene: Belphegor\_34 Start: 32088, Stop: 31654, Start Num: 33

Candidate Starts for Belphegor\_34:

(10, 32232), (12, 32220), (17, 32190), (Start: 33 @32088 has 1 MA's), (55, 31938), (57, 31935), (67, 31851), (68, 31848), (72, 31815), (78, 31728),

Gene: Blackbeetle\_51 Start: 28464, Stop: 28937, Start Num: 25

Candidate Starts for Blackbeetle\_51:

(Start: 25 @28464 has 9 MA's), (Start: 32 @28494 has 2 MA's), (40, 28575), (54, 28665), (66, 28740), (78, 28863), (83, 28902), (84, 28908),

Gene: BobBob\_38 Start: 35578, Stop: 35108, Start Num: 20

Candidate Starts for BobBob\_38:

(1, 35776), (2, 35767), (4, 35707), (7, 35698), (13, 35662), (Start: 20 @35578 has 8 MA's), (42, 35452), (46, 35434), (53, 35389), (58, 35371), (63, 35326), (67, 35290), (77, 35212),

Gene: Brandonk123\_42 Start: 36713, Stop: 36243, Start Num: 20

Candidate Starts for Brandonk123\_42:

(1, 36911), (2, 36902), (4, 36842), (7, 36833), (13, 36797), (Start: 20 @36713 has 8 MA's), (42, 36587), (46, 36569), (53, 36524), (58, 36506), (63, 36461), (67, 36425), (77, 36347),

Gene: Charming\_41 Start: 36214, Stop: 35744, Start Num: 20

Candidate Starts for Charming\_41:

(1, 36412), (2, 36403), (4, 36343), (7, 36334), (13, 36298), (Start: 20 @36214 has 8 MA's), (42, 36088), (46, 36070), (53, 36025), (58, 36007), (63, 35962), (67, 35926), (77, 35848),

Gene: CherryTomatoes\_169 Start: 123046, Stop: 122573, Start Num: 24

Candidate Starts for CherryTomatoes\_169:

(3, 123214), (6, 123169), (8, 123166), (Start: 24 @123046 has 2 MA's), (30, 123016), (41, 122929), (67, 122755), (75, 122689),

Gene: Clarkson\_52 Start: 29146, Stop: 29619, Start Num: 25

Candidate Starts for Clarkson\_52:

(Start: 25 @29146 has 9 MA's), (Start: 32 @29176 has 2 MA's), (40, 29257), (54, 29347), (66, 29422), (78, 29545), (83, 29584), (84, 29590),

Gene: DeluluLabubu\_212 Start: 104650, Stop: 105126, Start Num: 28

Candidate Starts for DeluluLabubu\_212:

(Start: 28 @104650 has 6 MA's), (48, 104794), (49, 104797), (59, 104845), (62, 104881), (71, 104959),

Gene: Emma1919\_210 Start: 103175, Stop: 103651, Start Num: 28

Candidate Starts for Emma1919\_210:

(Start: 28 @103175 has 6 MA's), (48, 103319), (49, 103322), (59, 103370), (62, 103406), (71, 103484),

Gene: EvePickles\_81 Start: 47374, Stop: 47805, Start Num: 29

Candidate Starts for EvePickles\_81:

(23, 47359), (Start: 29 @47374 has 4 MA's), (67, 47635), (68, 47638),

Gene: Forrest\_210 Start: 104141, Stop: 104617, Start Num: 28

Candidate Starts for Forrest\_210:

(Start: 28 @104141 has 6 MA's), (48, 104285), (49, 104288), (59, 104336), (62, 104372), (71, 104450),

Gene: Forrest\_171 Start: 88900, Stop: 89394, Start Num: 28

Candidate Starts for Forrest\_171:

(Start: 28 @88900 has 6 MA's), (45, 89029), (48, 89041), (61, 89119), (63, 89134), (67, 89170), (81, 89323), (87, 89368), (88, 89374),

Gene: GiJojo\_54 Start: 20818, Stop: 21288, Start Num: 22

Candidate Starts for GiJojo\_54:

(Start: 22 @20818 has 2 MA's), (31, 20854), (37, 20896), (55, 21010), (62, 21055), (64, 21064), (65, 21067), (67, 21097), (75, 21163), (79, 21223), (81, 21247), (82, 21256), (85, 21268),

Gene: GoongGoong\_50 Start: 28396, Stop: 28839, Start Num: 32

Candidate Starts for GoongGoong\_50:

(Start: 25 @28366 has 9 MA's), (Start: 32 @28396 has 2 MA's), (40, 28477), (54, 28567), (66, 28642), (78, 28765), (83, 28804), (84, 28810),

Gene: Huphlebuff\_53 Start: 28951, Stop: 29424, Start Num: 25

Candidate Starts for Huphlebuff\_53:

(Start: 25 @28951 has 9 MA's), (Start: 32 @28981 has 2 MA's), (40, 29062), (54, 29152), (66, 29227), (78, 29350), (83, 29389), (84, 29395),

Gene: Jada\_168 Start: 87596, Stop: 88090, Start Num: 28

Candidate Starts for Jada\_168:

(Start: 28 @87596 has 6 MA's), (45, 87725), (48, 87737), (61, 87815), (63, 87830), (67, 87866), (81, 88019), (87, 88064), (88, 88070),

Gene: Jalebi\_69 Start: 49016, Stop: 49408, Start Num: 36

Candidate Starts for Jalebi\_69:

(34, 49013), (Start: 36 @49016 has 2 MA's), (55, 49139), (57, 49142), (65, 49196), (67, 49226), (73, 49262), (81, 49376),

Gene: JonJames\_73 Start: 49905, Stop: 50405, Start Num: 19

Candidate Starts for JonJames\_73:

(Start: 19 @49905 has 3 MA's), (39, 49998), (41, 50019), (50, 50073), (55, 50112), (65, 50169), (67, 50199), (74, 50253), (76, 50286), (81, 50361),

Gene: LeBruni\_82 Start: 46016, Stop: 46447, Start Num: 29

Candidate Starts for LeBruni\_82:

(23, 46001), (Start: 29 @46016 has 4 MA's), (35, 46052), (56, 46193), (67, 46277),

Gene: Lilbit\_50 Start: 29147, Stop: 29620, Start Num: 25

Candidate Starts for Lilbit\_50:

(Start: 25 @29147 has 9 MA's), (Start: 32 @29177 has 2 MA's), (40, 29258), (54, 29348), (66, 29423), (78, 29546), (83, 29585), (84, 29591),

Gene: LittleLaf\_51 Start: 28906, Stop: 29349, Start Num: 32

Candidate Starts for LittleLaf\_51:

(Start: 25 @28876 has 9 MA's), (Start: 32 @28906 has 2 MA's), (40, 28987), (54, 29077), (66, 29152), (78, 29275), (83, 29314), (84, 29320),

Gene: Love\_44 Start: 37647, Stop: 37177, Start Num: 20

Candidate Starts for Love\_44:

(1, 37845), (2, 37836), (4, 37776), (7, 37767), (13, 37731), (Start: 20 @37647 has 8 MA's), (42, 37521), (46, 37503), (53, 37458), (58, 37440), (63, 37395), (67, 37359), (77, 37281),

Gene: Marky\_43 Start: 31173, Stop: 31622, Start Num: 24

Candidate Starts for Marky\_43:

(Start: 24 @31173 has 2 MA's), (26, 31179), (27, 31182), (52, 31344), (57, 31359), (64, 31404), (66, 31428), (80, 31572),

Gene: Nabi\_57 Start: 42255, Stop: 41725, Start Num: 18

Candidate Starts for Nabi\_57:

(9, 42360), (15, 42315), (Start: 18 @42255 has 1 MA's), (38, 42147), (47, 42084), (60, 42000), (63, 41979), (69, 41940), (70, 41928), (74, 41898), (86, 41751), (87, 41745),

Gene: Nordenberg\_35 Start: 35840, Stop: 35370, Start Num: 20

Candidate Starts for Nordenberg\_35:

(1, 36038), (2, 36029), (4, 35969), (7, 35960), (13, 35924), (Start: 20 @35840 has 8 MA's), (42, 35714), (46, 35696), (53, 35651), (58, 35633), (63, 35588), (67, 35552), (77, 35474),

Gene: Paries\_43 Start: 37309, Stop: 36839, Start Num: 20

Candidate Starts for Paries\_43:

(1, 37507), (2, 37498), (4, 37438), (7, 37429), (13, 37393), (Start: 20 @37309 has 8 MA's), (42, 37183), (46, 37165), (53, 37120), (58, 37102), (63, 37057), (67, 37021), (77, 36943),

Gene: Phrank15\_85 Start: 46952, Stop: 47386, Start Num: 29

Candidate Starts for Phrank15\_85:

(23, 46937), (Start: 29 @46952 has 4 MA's), (35, 46988), (56, 47129), (67, 47213), (68, 47216),

Gene: Phredrick\_212 Start: 102971, Stop: 103447, Start Num: 28

Candidate Starts for Phredrick\_212:

(Start: 28 @102971 has 6 MA's), (48, 103115), (49, 103118), (59, 103166), (62, 103202), (71, 103280),

Gene: Poise\_51 Start: 28464, Stop: 28937, Start Num: 25

Candidate Starts for Poise\_51:

(Start: 25 @28464 has 9 MA's), (Start: 32 @28494 has 2 MA's), (40, 28575), (54, 28665), (66, 28740), (78, 28863), (83, 28902), (84, 28908),

Gene: Pringar\_51 Start: 28752, Stop: 29225, Start Num: 25

Candidate Starts for Pringar\_51:

(Start: 25 @28752 has 9 MA's), (Start: 32 @28782 has 2 MA's), (40, 28863), (54, 28953), (66, 29028), (78, 29151), (83, 29190), (84, 29196),

Gene: Pupper\_168 Start: 123157, Stop: 122813, Start Num: 43

Candidate Starts for Pupper\_168:

(5, 123403), (11, 123373), (30, 123241), (Start: 43 @123157 has 1 MA's), (44, 123151), (66, 123001),

Gene: Raela\_51 Start: 29019, Stop: 29492, Start Num: 25

Candidate Starts for Raela\_51:

(Start: 25 @29019 has 9 MA's), (Start: 32 @29049 has 2 MA's), (40, 29130), (54, 29220), (66, 29295), (78, 29418), (83, 29457), (84, 29463),

Gene: Rofo\_41 Start: 36635, Stop: 36165, Start Num: 20

Candidate Starts for Rofo\_41:

(1, 36833), (2, 36824), (4, 36764), (7, 36755), (13, 36719), (Start: 20 @36635 has 8 MA's), (42, 36509), (46, 36491), (53, 36446), (58, 36428), (63, 36383), (67, 36347), (77, 36269),

Gene: Sampudon\_70 Start: 49016, Stop: 49408, Start Num: 36

Candidate Starts for Sampudon\_70:

(34, 49013), (Start: 36 @49016 has 2 MA's), (55, 49139), (57, 49142), (65, 49196), (67, 49226), (73, 49262), (81, 49376),

Gene: Tangent\_41 Start: 36226, Stop: 35756, Start Num: 20

Candidate Starts for Tangent\_41:

(1, 36424), (2, 36415), (4, 36355), (7, 36346), (13, 36310), (Start: 20 @36226 has 8 MA's), (42, 36100), (46, 36082), (53, 36037), (58, 36019), (63, 35974), (67, 35938), (77, 35860),

Gene: VasuNzinga\_51 Start: 28326, Stop: 28799, Start Num: 25

Candidate Starts for VasuNzinga\_51:

(Start: 25 @28326 has 9 MA's), (Start: 32 @28356 has 2 MA's), (40, 28437), (54, 28527), (66, 28602), (78, 28725), (83, 28764), (84, 28770),

Gene: Vitus\_38 Start: 31088, Stop: 31606, Start Num: 21

Candidate Starts for Vitus\_38:

(Start: 21 @31088 has 1 MA's), (51, 31262), (75, 31457),

Gene: Vivi2\_43 Start: 37381, Stop: 36914, Start Num: 19

Candidate Starts for Vivi2\_43:

(14, 37450), (16, 37441), (Start: 19 @37381 has 3 MA's), (42, 37258), (46, 37240), (53, 37195), (58, 37177), (63, 37132), (67, 37096), (77, 37018),

Gene: Yvonnetastic\_71 Start: 47446, Stop: 47946, Start Num: 19

Candidate Starts for Yvonnetastic\_71:

(Start: 19 @47446 has 3 MA's), (39, 47539), (41, 47560), (50, 47614), (55, 47653), (65, 47710), (67, 47740), (74, 47794), (76, 47827), (81, 47902),