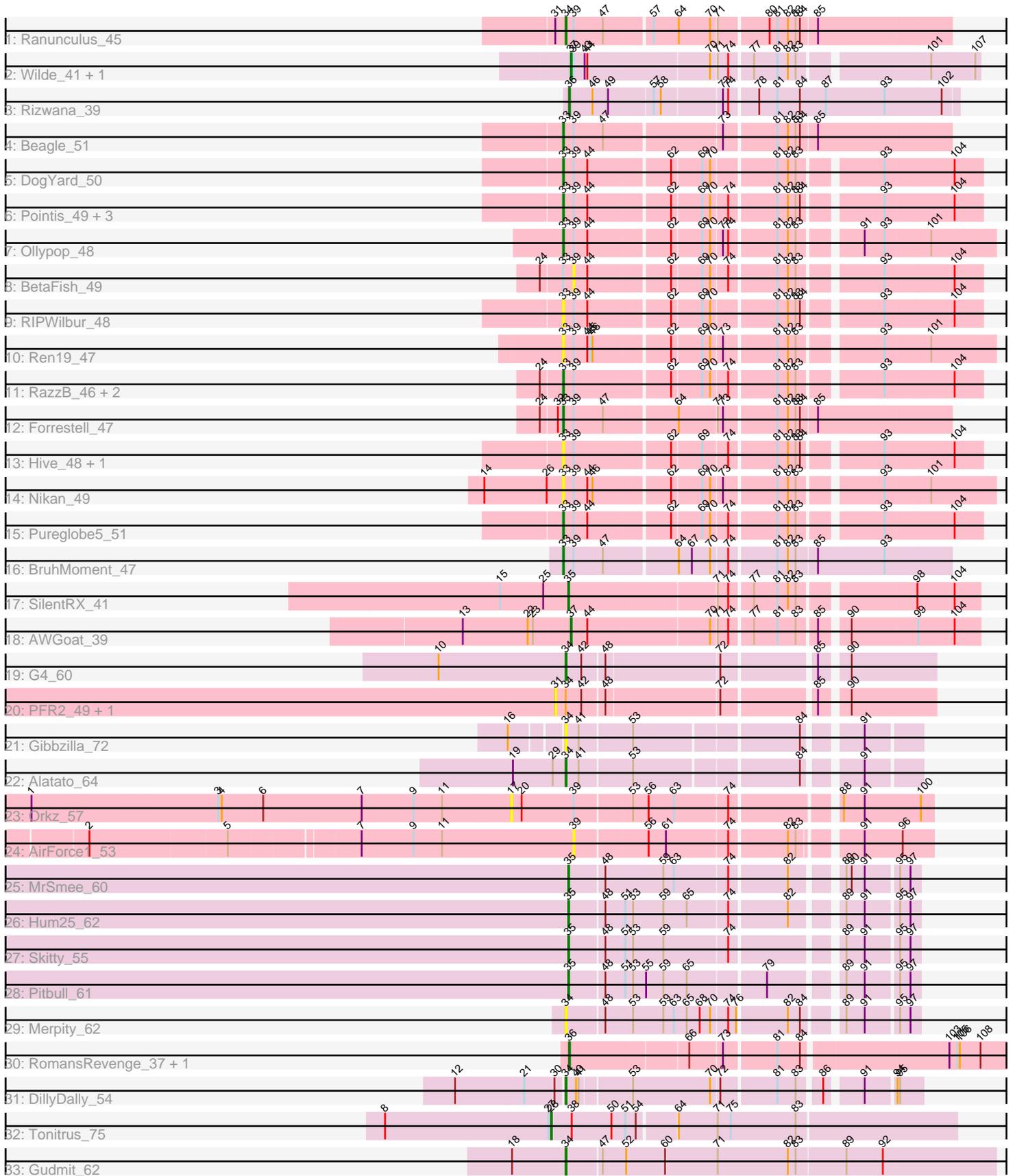


# Pham 291310



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 291310 Report

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

Pham number 291310 has 42 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Ranunculus\_45
- Track 2 : Wilde\_41, Tank\_41
- Track 3 : Rizwana\_39
- Track 4 : Beagle\_51
- Track 5 : DogYard\_50
- Track 6 : Pointis\_49, Odyssey395\_52, PhuzzTulsa\_48, Kubulix\_51
- Track 7 : Ollypop\_48
- Track 8 : BetaFish\_49
- Track 9 : RIPWilbur\_48
- Track 10 : Ren19\_47
- Track 11 : RazzB\_46, MellowYellow\_47, NyleyClemson\_46
- Track 12 : Forrestell\_47
- Track 13 : Hive\_48, Popstraw\_47
- Track 14 : Nikan\_49
- Track 15 : Pureglobe5\_51
- Track 16 : BruhMoment\_47
- Track 17 : SilentRX\_41
- Track 18 : AWGoat\_39
- Track 19 : G4\_60
- Track 20 : PFR2\_49, PFR1\_47
- Track 21 : Gibbzilla\_72
- Track 22 : Alatato\_64
- Track 23 : Orkz\_57
- Track 24 : AirForce1\_53
- Track 25 : MrSmee\_60
- Track 26 : Hum25\_62
- Track 27 : Skitty\_55
- Track 28 : Pitbull\_61
- Track 29 : Merpity\_62
- Track 30 : RomansRevenge\_37, Boise\_36
- Track 31 : DillyDally\_54
- Track 32 : Tonitrus\_75
- Track 33 : Gudmit\_62

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

The start number called the most often in the published annotations is 33, it was called in 11 of the 27 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Beagle\_51, BruhMoment\_47, DogYard\_50, Forrestell\_47, Hive\_48, Kubulix\_51, MellowYellow\_47, Nikan\_49, NyleyClemson\_46, Odyssey395\_52, Ollypop\_48, PhuzzTulsa\_48, Pointis\_49, Popstraw\_47, Pureglobe5\_51, RIPWilbur\_48, RazzB\_46, Ren19\_47,

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

- BetaFish\_49,

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

- AWGoat\_39, AirForce1\_53, Alatato\_64, Boise\_36, DillyDally\_54, G4\_60, Gibbzilla\_72, Gudmit\_62, Hum25\_62, Merpity\_62, MrSmee\_60, Orkz\_57, PFR1\_47, PFR2\_49, Pitbull\_61, Ranunculus\_45, Rizwana\_39, RomansRevenge\_37, SilentRX\_41, Skitty\_55, Tank\_41, Tonitrus\_75, Wilde\_41,

### Summary by start number:

Start 17:

- Found in 1 of 42 ( 2.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Orkz\_57 (FL),

Start 28:

- Found in 1 of 42 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 1 of 27
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tonitrus\_75 (singleton),

Start 31:

- Found in 3 of 42 ( 7.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 66.7% of time when present
- Phage (with cluster) where this start called: PFR1\_47 (BX), PFR2\_49 (BX),

Start 33:

- Found in 19 of 42 ( 45.2% ) of genes in pham
- Manual Annotations of this start: 11 of 27
- Called 94.7% of time when present
- Phage (with cluster) where this start called: Beagle\_51 (AP2), BruhMoment\_47 (AP3), DogYard\_50 (AP2), Forrestell\_47 (AP2), Hive\_48 (AP2), Kubulix\_51 (AP2), MellowYellow\_47 (AP2), Nikan\_49 (AP2), NyleyClemson\_46 (AP2), Odyssey395\_52 (AP2), Ollypop\_48 (AP2), PhuzzTulsa\_48 (AP2), Pointis\_49 (AP2), Popstraw\_47 (AP2), Pureglobe5\_51 (AP2), RIPWilbur\_48 (AP2), RazzB\_46 (AP2), Ren19\_47 (AP2),

Start 34:

- Found in 9 of 42 ( 21.4% ) of genes in pham
- Manual Annotations of this start: 5 of 27

- Called 77.8% of time when present
- Phage (with cluster) where this start called: Alatato\_64 (FB), DillyDally\_54 (singleton), G4\_60 (BW), Gibbzilla\_72 (FB), Gudmit\_62 (singleton), Merpity\_62 (FQ), Ranunculus\_45 (AP),

#### Start 35:

- Found in 5 of 42 ( 11.9% ) of genes in pham
- Manual Annotations of this start: 5 of 27
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hum25\_62 (FQ), MrSmee\_60 (FQ), Pitbull\_61 (FQ), SilentRX\_41 (AP4), Skitty\_55 (FQ),

#### Start 36:

- Found in 3 of 42 ( 7.1% ) of genes in pham
- Manual Annotations of this start: 2 of 27
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boise\_36 (FT), Rizwana\_39 (AP1), RomansRevenge\_37 (FT),

#### Start 37:

- Found in 3 of 42 ( 7.1% ) of genes in pham
- Manual Annotations of this start: 3 of 27
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AWGoat\_39 (AP4), Tank\_41 (AP1), Wilde\_41 (AP1),

#### Start 39:

- Found in 24 of 42 ( 57.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 8.3% of time when present
- Phage (with cluster) where this start called: AirForce1\_53 (FL), BetaFish\_49 (AP2),

### **Summary by clusters:**

There are 12 clusters represented in this pham: FQ, singleton, FT, AP2, FL, AP1, AP4, AP, FB, BW, AP3, BX,

#### Info for manual annotations of cluster AP:

- Start number 34 was manually annotated 1 time for cluster AP.

#### Info for manual annotations of cluster AP1:

- Start number 36 was manually annotated 1 time for cluster AP1.
- Start number 37 was manually annotated 2 times for cluster AP1.

#### Info for manual annotations of cluster AP2:

- Start number 33 was manually annotated 10 times for cluster AP2.

#### Info for manual annotations of cluster AP3:

- Start number 33 was manually annotated 1 time for cluster AP3.

#### Info for manual annotations of cluster AP4:

- Start number 35 was manually annotated 1 time for cluster AP4.
- Start number 37 was manually annotated 1 time for cluster AP4.

Info for manual annotations of cluster BW:

- Start number 34 was manually annotated 1 time for cluster BW.

Info for manual annotations of cluster FB:

- Start number 34 was manually annotated 1 time for cluster FB.

Info for manual annotations of cluster FQ:

- Start number 35 was manually annotated 4 times for cluster FQ.

Info for manual annotations of cluster FT:

- Start number 36 was manually annotated 1 time for cluster FT.

### **Gene Information:**

Gene: AWGoat\_39 Start: 35301, Stop: 34870, Start Num: 37

Candidate Starts for AWGoat\_39:

(13, 35424), (22, 35349), (23, 35343), (Start: 37 @35301 has 3 MA's), (44, 35283), (70, 35148), (71, 35142), (74, 35130), (77, 35106), (81, 35079), (83, 35058), (85, 35040), (90, 35013), (99, 34941), (104, 34899),

Gene: AirForce1\_53 Start: 36526, Stop: 36900, Start Num: 39

Candidate Starts for AirForce1\_53:

(2, 35989), (5, 36145), (7, 36283), (9, 36343), (11, 36376), (39, 36526), (56, 36607), (61, 36625), (74, 36694), (82, 36757), (83, 36766), (91, 36823), (96, 36865),

Gene: Alatato\_64 Start: 36072, Stop: 36431, Start Num: 34

Candidate Starts for Alatato\_64:

(19, 36012), (29, 36057), (Start: 34 @36072 has 5 MA's), (41, 36087), (53, 36144), (84, 36318), (91, 36372),

Gene: Beagle\_51 Start: 38228, Stop: 37809, Start Num: 33

Candidate Starts for Beagle\_51:

(Start: 33 @38228 has 11 MA's), (39, 38216), (47, 38183), (73, 38057), (81, 38000), (82, 37988), (83, 37979), (84, 37976), (85, 37958),

Gene: BetaFish\_49 Start: 38433, Stop: 38008, Start Num: 39

Candidate Starts for BetaFish\_49:

(24, 38469), (Start: 33 @38445 has 11 MA's), (39, 38433), (44, 38418), (62, 38331), (69, 38298), (70, 38289), (74, 38271), (81, 38220), (82, 38208), (83, 38199), (93, 38118), (104, 38040),

Gene: Boise\_36 Start: 34253, Stop: 33783, Start Num: 36

Candidate Starts for Boise\_36:

(Start: 36 @34253 has 2 MA's), (66, 34124), (73, 34088), (81, 34031), (84, 34007), (103, 33851), (105, 33842), (106, 33839), (108, 33815),

Gene: BruhMoment\_47 Start: 39339, Stop: 38920, Start Num: 33

Candidate Starts for BruhMoment\_47:

(Start: 33 @39339 has 11 MA's), (39, 39327), (47, 39294), (64, 39216), (67, 39201), (70, 39180), (74, 39162), (81, 39111), (82, 39099), (83, 39090), (85, 39069), (93, 38994),

Gene: DillyDally\_54 Start: 35605, Stop: 35967, Start Num: 34

Candidate Starts for DillyDally\_54:

(12, 35485), (21, 35563), (30, 35596), (Start: 34 @35605 has 5 MA's), (40, 35617), (41, 35620), (53, 35674), (70, 35761), (72, 35770), (81, 35830), (83, 35851), (86, 35872), (91, 35908), (94, 35938), (95, 35941),

Gene: DogYard\_50 Start: 38145, Stop: 37708, Start Num: 33

Candidate Starts for DogYard\_50:

(Start: 33 @38145 has 11 MA's), (39, 38133), (44, 38118), (62, 38031), (69, 37998), (70, 37989), (81, 37920), (82, 37908), (83, 37899), (93, 37818), (104, 37740),

Gene: Forrestell\_47 Start: 36597, Stop: 36178, Start Num: 33

Candidate Starts for Forrestell\_47:

(24, 36621), (32, 36603), (Start: 33 @36597 has 11 MA's), (39, 36585), (47, 36552), (64, 36474), (71, 36432), (73, 36426), (81, 36369), (82, 36357), (83, 36348), (84, 36345), (85, 36327),

Gene: G4\_60 Start: 34029, Stop: 34412, Start Num: 34

Candidate Starts for G4\_60:

(10, 33882), (Start: 34 @34029 has 5 MA's), (42, 34047), (48, 34071), (72, 34194), (85, 34290), (90, 34317),

Gene: Gibbzilla\_72 Start: 36470, Stop: 36829, Start Num: 34

Candidate Starts for Gibbzilla\_72:

(16, 36416), (Start: 34 @36470 has 5 MA's), (41, 36485), (53, 36542), (84, 36716), (91, 36770),

Gene: Gudmit\_62 Start: 37386, Stop: 37871, Start Num: 34

Candidate Starts for Gudmit\_62:

(18, 37326), (Start: 34 @37386 has 5 MA's), (47, 37425), (52, 37452), (60, 37497), (71, 37557), (82, 37638), (83, 37647), (89, 37701), (92, 37743),

Gene: Hive\_48 Start: 38326, Stop: 37889, Start Num: 33

Candidate Starts for Hive\_48:

(Start: 33 @38326 has 11 MA's), (39, 38314), (62, 38212), (69, 38179), (74, 38152), (81, 38101), (82, 38089), (83, 38080), (84, 38077), (93, 37999), (104, 37921),

Gene: Hum25\_62 Start: 35736, Stop: 36095, Start Num: 35

Candidate Starts for Hum25\_62:

(Start: 35 @35736 has 5 MA's), (48, 35775), (51, 35796), (53, 35805), (59, 35838), (65, 35865), (74, 35910), (82, 35973), (89, 36018), (91, 36039), (95, 36072), (97, 36084),

Gene: Kubulix\_51 Start: 38093, Stop: 37656, Start Num: 33

Candidate Starts for Kubulix\_51:

(Start: 33 @38093 has 11 MA's), (39, 38081), (44, 38066), (62, 37979), (69, 37946), (70, 37937), (74, 37919), (81, 37868), (82, 37856), (83, 37847), (84, 37844), (93, 37766), (104, 37688),

Gene: MellowYellow\_47 Start: 36986, Stop: 36549, Start Num: 33

Candidate Starts for MellowYellow\_47:

(24, 37010), (Start: 33 @36986 has 11 MA's), (39, 36974), (62, 36872), (69, 36839), (70, 36830), (74, 36812), (81, 36761), (82, 36749), (83, 36740), (93, 36659), (104, 36581),

Gene: Merpity\_62 Start: 35478, Stop: 35843, Start Num: 34

Candidate Starts for Merpity\_62:

(Start: 34 @35478 has 5 MA's), (48, 35520), (53, 35550), (59, 35583), (63, 35595), (65, 35610), (68, 35625), (70, 35637), (74, 35655), (76, 35664), (82, 35718), (84, 35730), (89, 35766), (91, 35787), (95, 35820), (97, 35832),

Gene: MrSmee\_60 Start: 35393, Stop: 35752, Start Num: 35

Candidate Starts for MrSmee\_60:

(Start: 35 @35393 has 5 MA's), (48, 35432), (59, 35495), (63, 35507), (74, 35567), (82, 35630), (89, 35675), (90, 35681), (91, 35696), (95, 35729), (97, 35741),

Gene: Nikan\_49 Start: 37352, Stop: 36900, Start Num: 33

Candidate Starts for Nikan\_49:

(14, 37442), (26, 37370), (Start: 33 @37352 has 11 MA's), (39, 37340), (44, 37325), (46, 37319), (62, 37238), (69, 37205), (70, 37196), (73, 37184), (81, 37127), (82, 37115), (83, 37106), (93, 37025), (101, 36974),

Gene: NyleyClemson\_46 Start: 36601, Stop: 36164, Start Num: 33

Candidate Starts for NyleyClemson\_46:

(24, 36625), (Start: 33 @36601 has 11 MA's), (39, 36589), (62, 36487), (69, 36454), (70, 36445), (74, 36427), (81, 36376), (82, 36364), (83, 36355), (93, 36274), (104, 36196),

Gene: Odyssey395\_52 Start: 38270, Stop: 37833, Start Num: 33

Candidate Starts for Odyssey395\_52:

(Start: 33 @38270 has 11 MA's), (39, 38258), (44, 38243), (62, 38156), (69, 38123), (70, 38114), (74, 38096), (81, 38045), (82, 38033), (83, 38024), (84, 38021), (93, 37943), (104, 37865),

Gene: Ollypop\_48 Start: 38043, Stop: 37591, Start Num: 33

Candidate Starts for Ollypop\_48:

(Start: 33 @38043 has 11 MA's), (39, 38031), (44, 38016), (62, 37929), (69, 37896), (70, 37887), (73, 37875), (74, 37869), (81, 37818), (82, 37806), (83, 37797), (91, 37737), (93, 37716), (101, 37665),

Gene: Orkz\_57 Start: 36268, Stop: 36717, Start Num: 17

Candidate Starts for Orkz\_57:

(1, 35722), (3, 35932), (4, 35935), (6, 35983), (7, 36097), (9, 36157), (11, 36190), (17, 36268), (20, 36280), (39, 36340), (53, 36403), (56, 36421), (63, 36448), (74, 36508), (88, 36616), (91, 36640), (100, 36703),

Gene: PFR1\_47 Start: 32984, Stop: 33379, Start Num: 31

Candidate Starts for PFR1\_47:

(31, 32984), (Start: 34 @32996 has 5 MA's), (42, 33014), (48, 33038), (72, 33161), (85, 33257), (90, 33284),

Gene: PFR2\_49 Start: 34553, Stop: 34948, Start Num: 31

Candidate Starts for PFR2\_49:

(31, 34553), (Start: 34 @34565 has 5 MA's), (42, 34583), (48, 34607), (72, 34730), (85, 34826), (90, 34853),

Gene: PhuzzTulsa\_48 Start: 38230, Stop: 37793, Start Num: 33

Candidate Starts for PhuzzTulsa\_48:

(Start: 33 @38230 has 11 MA's), (39, 38218), (44, 38203), (62, 38116), (69, 38083), (70, 38074), (74, 38056), (81, 38005), (82, 37993), (83, 37984), (84, 37981), (93, 37903), (104, 37825),

Gene: Pitbull\_61 Start: 34580, Stop: 34939, Start Num: 35

Candidate Starts for Pitbull\_61:

(Start: 35 @34580 has 5 MA's), (48, 34619), (51, 34640), (53, 34649), (55, 34664), (59, 34682), (65, 34709), (79, 34793), (89, 34862), (91, 34883), (95, 34916), (97, 34928),

Gene: Pointis\_49 Start: 38268, Stop: 37831, Start Num: 33

Candidate Starts for Pointis\_49:

(Start: 33 @38268 has 11 MA's), (39, 38256), (44, 38241), (62, 38154), (69, 38121), (70, 38112), (74, 38094), (81, 38043), (82, 38031), (83, 38022), (84, 38019), (93, 37941), (104, 37863),

Gene: Popstraw\_47 Start: 38054, Stop: 37617, Start Num: 33

Candidate Starts for Popstraw\_47:

(Start: 33 @38054 has 11 MA's), (39, 38042), (62, 37940), (69, 37907), (74, 37880), (81, 37829), (82, 37817), (83, 37808), (84, 37805), (93, 37727), (104, 37649),

Gene: Pureglobe5\_51 Start: 38451, Stop: 38014, Start Num: 33

Candidate Starts for Pureglobe5\_51:

(Start: 33 @38451 has 11 MA's), (39, 38439), (44, 38424), (62, 38337), (69, 38304), (70, 38295), (74, 38277), (81, 38226), (82, 38214), (83, 38205), (93, 38124), (104, 38046),

Gene: RIPWilbur\_48 Start: 37584, Stop: 37147, Start Num: 33

Candidate Starts for RIPWilbur\_48:

(Start: 33 @37584 has 11 MA's), (39, 37572), (44, 37557), (62, 37470), (69, 37437), (70, 37428), (81, 37359), (82, 37347), (83, 37338), (84, 37335), (93, 37257), (104, 37179),

Gene: Ranunculus\_45 Start: 40272, Stop: 39856, Start Num: 34

Candidate Starts for Ranunculus\_45:

(31, 40284), (Start: 34 @40272 has 5 MA's), (39, 40263), (47, 40230), (57, 40179), (64, 40152), (70, 40116), (71, 40110), (80, 40056), (81, 40047), (82, 40035), (83, 40026), (84, 40023), (85, 40005),

Gene: RazzB\_46 Start: 36732, Stop: 36295, Start Num: 33

Candidate Starts for RazzB\_46:

(24, 36756), (Start: 33 @36732 has 11 MA's), (39, 36720), (62, 36618), (69, 36585), (70, 36576), (74, 36558), (81, 36507), (82, 36495), (83, 36486), (93, 36405), (104, 36327),

Gene: Ren19\_47 Start: 37352, Stop: 36900, Start Num: 33

Candidate Starts for Ren19\_47:

(Start: 33 @37352 has 11 MA's), (39, 37340), (44, 37325), (45, 37322), (46, 37319), (62, 37238), (69, 37205), (70, 37196), (73, 37184), (81, 37127), (82, 37115), (83, 37106), (93, 37025), (101, 36974),

Gene: Rizwana\_39 Start: 36865, Stop: 36446, Start Num: 36

Candidate Starts for Rizwana\_39:

(Start: 36 @36865 has 2 MA's), (46, 36841), (49, 36823), (57, 36775), (58, 36769), (73, 36703), (74, 36697), (78, 36667), (81, 36646), (84, 36622), (87, 36592), (93, 36526), (102, 36463),

Gene: RomansRevenge\_37 Start: 34253, Stop: 33783, Start Num: 36

Candidate Starts for RomansRevenge\_37:

(Start: 36 @34253 has 2 MA's), (66, 34124), (73, 34088), (81, 34031), (84, 34007), (103, 33851), (105, 33842), (106, 33839), (108, 33815),

Gene: SilentRX\_41 Start: 36325, Stop: 35891, Start Num: 35

Candidate Starts for SilentRX\_41:

(15, 36400), (25, 36352), (Start: 35 @36325 has 5 MA's), (71, 36163), (74, 36151), (77, 36127), (81, 36100), (82, 36088), (83, 36079), (98, 35962), (104, 35920),

Gene: Skitty\_55 Start: 33627, Stop: 33986, Start Num: 35

Candidate Starts for Skitty\_55:

(Start: 35 @33627 has 5 MA's), (48, 33666), (51, 33687), (53, 33696), (59, 33729), (74, 33801), (89, 33909), (91, 33930), (95, 33963), (97, 33975),

Gene: Tank\_41 Start: 36839, Stop: 36408, Start Num: 37

Candidate Starts for Tank\_41:

(Start: 37 @36839 has 3 MA's), (39, 36836), (43, 36824), (44, 36821), (70, 36686), (71, 36680), (74, 36668), (77, 36644), (81, 36617), (82, 36605), (83, 36596), (101, 36464), (107, 36413),

Gene: Tonitrus\_75 Start: 53537, Stop: 53983, Start Num: 28

Candidate Starts for Tonitrus\_75:

(8, 53345), (27, 53534), (Start: 28 @53537 has 1 MA's), (38, 53561), (50, 53606), (51, 53618), (54, 53630), (64, 53669), (71, 53714), (75, 53729), (83, 53804),

Gene: Wilde\_41 Start: 36681, Stop: 36250, Start Num: 37

Candidate Starts for Wilde\_41:

(Start: 37 @36681 has 3 MA's), (39, 36678), (43, 36666), (44, 36663), (70, 36528), (71, 36522), (74, 36510), (77, 36486), (81, 36459), (82, 36447), (83, 36438), (101, 36306), (107, 36255),