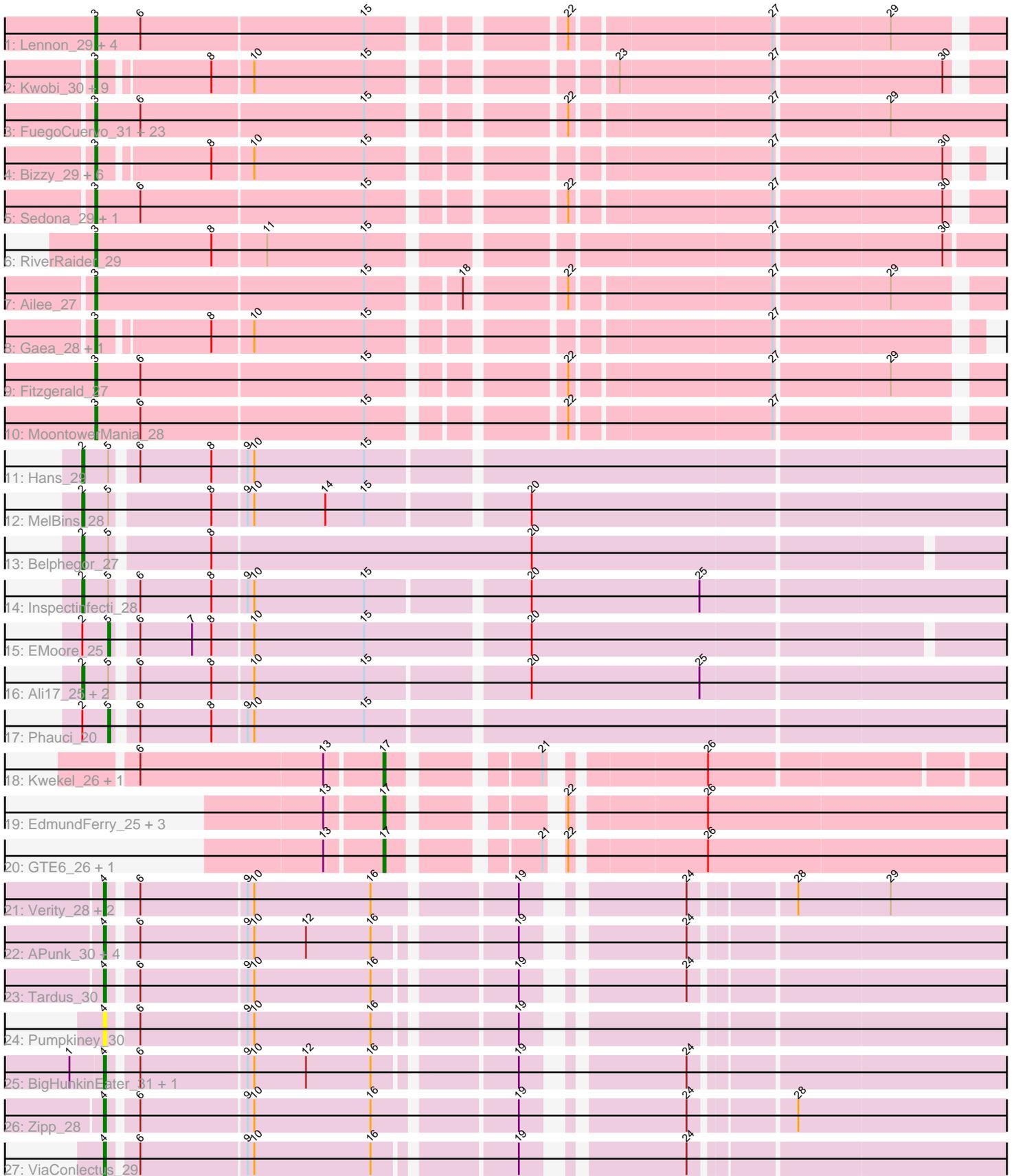


Pham 291065



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 291065 Report

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

Pham number 291065 has 85 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Lennon_29, Affeca_27, Sitar_29, Fosterous_27, Stultus_27
- Track 2 : Kwobi_30, Baumdotcom_28, Saronaya_28, LilHam_26, Tycho_28, Tangerine_28, Gustavo_28, StorminNorm_28, Ashertheman_29, SchottB_27
- Track 3 : FuegoCuervo_31, Geodirt_26, Sanjuju_27, McCrothy_29, Nordenberg_23, Rofo_29, Galadriel_29, Charming_29, Angelicage_27, Jabberwocky_27, Brandonk123_30, Tangent_29, BobBob_26, Shivanishola_30, Barsten_29, McKinley_31, Kewpiedoll_28, ChadMasterC_29, Kamashten_28, Vivi2_31, Paries_31, Love_32, Keitabear_29, Thing3_28
- Track 4 : Bizzy_29, Baddon_28, Kroos_29, Flatwoods_29, Derg_24, Ribeye_29, YorkOnyx_29
- Track 5 : Sedona_29, Bibwit_28
- Track 6 : RiverRaider_29
- Track 7 : Ailee_27
- Track 8 : Gaea_28, JKSyngboy_26
- Track 9 : Fitzgerald_27
- Track 10 : MoontowerMania_28
- Track 11 : Hans_29
- Track 12 : MelBins_28
- Track 13 : Belphegor_27
- Track 14 : Inspectinfecti_28
- Track 15 : EMoore_25
- Track 16 : Ali17_25, Leonard_27, Phinally_27
- Track 17 : Phauci_20
- Track 18 : Kwekel_26, Dxdert_27
- Track 19 : EdmundFerry_25, Tiamoceli_27, Chickadee_26, Twonlo_24
- Track 20 : GTE6_26, RoadKill_24
- Track 21 : Verity_28, Delrey21_28, DoctorFroggo_28
- Track 22 : APunk_30, Abblin_29, Scioto_29, Sampson_29, Natkenzie_29
- Track 23 : Tardus_30
- Track 24 : Pumpkiney_30
- Track 25 : BigHunkinEater_31, Zitch_30
- Track 26 : Zipp_28
- Track 27 : ViaConlectus_29

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

The start number called the most often in the published annotations is 3, it was called in 53 of the 78 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Affeca_27, Ailee_27, Angelicage_27, Ashertheman_29, Baddon_28, Barsten_29, Baumdotcom_28, Bibwit_28, Bizzy_29, BobBob_26, Brandonk123_30, ChadMasterC_29, Charming_29, Derg_24, Fitzgerald_27, Flatwoods_29, Fosterous_27, FuegoCuervo_31, Gaea_28, Galadriel_29, Geodirt_26, Gustavo_28, JKSyngboy_26, Jabberwocky_27, Kamashten_28, Keitabear_29, Kewpiedoll_28, Kroos_29, Kwobi_30, Lennon_29, LilHam_26, Love_32, McCrothy_29, McKinley_31, MoontowerMania_28, Nordenberg_23, Paries_31, Ribeye_29, RiverRaider_29, Rofo_29, Sanjuju_27, Saronaya_28, SchottB_27, Sedona_29, Shivanishola_30, Sitar_29, StorminNorm_28, Stultus_27, Tangent_29, Tangerine_28, Thing3_28, Tycho_28, Vivi2_31, YorkOnyx_29,

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

-

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

- APunk_30, Abblin_29, Ali17_25, Belphegor_27, BigHunkinEater_31, Chickadee_26, Delrey21_28, Dexdert_27, DoctorFroggo_28, EMoore_25, EdmundFerry_25, GTE6_26, Hans_29, Inspectinfecti_28, Kwekel_26, Leonard_27, MelBins_28, Natkenzie_29, Phauci_20, Phinally_27, Pumpkiney_30, RoadKill_24, Sampson_29, Scioto_29, Tardus_30, Tiamoceli_27, Twonlo_24, Verity_28, ViaConlectus_29, Zipp_28, Zitch_30,

Summary by start number:

Start 2:

- Found in 9 of 85 (10.6%) of genes in pham
- Manual Annotations of this start: 7 of 78
- Called 77.8% of time when present
- Phage (with cluster) where this start called: Ali17_25 (DE2), Belphegor_27 (DE2), Hans_29 (DE2), Inspectinfecti_28 (DE2), Leonard_27 (DE2), MelBins_28 (DE2), Phinally_27 (DE2),

Start 3:

- Found in 54 of 85 (63.5%) of genes in pham
- Manual Annotations of this start: 53 of 78
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Affeca_27 (DE1), Ailee_27 (DE1), Angelicage_27 (DE1), Ashertheman_29 (DE1), Baddon_28 (DE1), Barsten_29 (DE1), Baumdotcom_28 (DE1), Bibwit_28 (DE1), Bizzy_29 (DE1), BobBob_26 (DE1), Brandonk123_30 (DE1), ChadMasterC_29 (DE1), Charming_29 (DE1), Derg_24 (DE1), Fitzgerald_27 (DE1), Flatwoods_29 (DE1), Fosterous_27 (DE1), FuegoCuervo_31 (DE1), Gaea_28 (DE1), Galadriel_29 (DE1), Geodirt_26 (DE1), Gustavo_28 (DE1), JKSyngboy_26 (DE1), Jabberwocky_27 (DE1), Kamashten_28 (DE1), Keitabear_29 (DE1), Kewpiedoll_28 (DE1), Kroos_29 (DE1), Kwobi_30 (DE1), Lennon_29 (DE1), LilHam_26 (DE1), Love_32 (DE1), McCrothy_29 (DE1), McKinley_31 (DE1), MoontowerMania_28 (DE1), Nordenberg_23 (DE1), Paries_31 (DE1), Ribeye_29 (DE1), RiverRaider_29 (DE1), Rofo_29 (DE1), Sanjuju_27 (DE1), Saronaya_28 (DE1), SchottB_27 (DE1), Sedona_29 (DE1), Shivanishola_30 (DE1),

Sitar_29 (DE1), StorminNorm_28 (DE1), Stultus_27 (DE1), Tangent_29 (DE1), Tangerine_28 (DE1), Thing3_28 (DE1), Tycho_28 (DE1), Vivi2_31 (DE1), YorkOnyx_29 (DE1),

Start 4:

- Found in 14 of 85 (16.5%) of genes in pham
- Manual Annotations of this start: 9 of 78
- Called 100.0% of time when present
- Phage (with cluster) where this start called: APunk_30 (DE4), Abblin_29 (DE4), BigHunkinEater_31 (DE4), Delrey21_28 (DE4), DoctorFroggo_28 (DE4), Natkenzie_29 (DE4), Pumpkiney_30 (DE4), Sampson_29 (DE4), Scioto_29 (DE4), Tardus_30 (DE4), Verity_28 (DE4), ViaConlectus_29 (DE4), Zipp_28 (DE4), Zitch_30 (DE4),

Start 5:

- Found in 9 of 85 (10.6%) of genes in pham
- Manual Annotations of this start: 2 of 78
- Called 22.2% of time when present
- Phage (with cluster) where this start called: EMoore_25 (DE2), Phauci_20 (DE2),

Start 17:

- Found in 8 of 85 (9.4%) of genes in pham
- Manual Annotations of this start: 7 of 78
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chickadee_26 (DE3), Dextert_27 (DE3), EdmundFerry_25 (DE3), GTE6_26 (DE3), Kwekel_26 (DE3), RoadKill_24 (DE3), Tiamoceli_27 (DE3), Twonlo_24 (DE3),

Summary by clusters:

There are 4 clusters represented in this pham: DE1, DE2, DE3, DE4,

Info for manual annotations of cluster DE1:

- Start number 3 was manually annotated 53 times for cluster DE1.

Info for manual annotations of cluster DE2:

- Start number 2 was manually annotated 7 times for cluster DE2.
- Start number 5 was manually annotated 2 times for cluster DE2.

Info for manual annotations of cluster DE3:

- Start number 17 was manually annotated 7 times for cluster DE3.

Info for manual annotations of cluster DE4:

- Start number 4 was manually annotated 9 times for cluster DE4.

Gene Information:

Gene: APunk_30 Start: 21958, Stop: 22368, Start Num: 4

Candidate Starts for APunk_30:

(Start: 4 @21958 has 9 MA's), (6, 21970), (9, 22018), (10, 22021), (12, 22045), (16, 22075), (19, 22132), (24, 22192),

Gene: Abblin_29 Start: 22570, Stop: 22980, Start Num: 4

Candidate Starts for Abblin_29:

(Start: 4 @22570 has 9 MA's), (6, 22582), (9, 22630), (10, 22633), (12, 22657), (16, 22687), (19, 22744), (24, 22804),

Gene: Affeca_27 Start: 22464, Stop: 22871, Start Num: 3

Candidate Starts for Affeca_27:

(Start: 3 @22464 has 53 MA's), (6, 22485), (15, 22587), (22, 22662), (27, 22749), (29, 22800),

Gene: Ailee_27 Start: 23173, Stop: 23580, Start Num: 3

Candidate Starts for Ailee_27:

(Start: 3 @23173 has 53 MA's), (15, 23296), (18, 23332), (22, 23371), (27, 23458), (29, 23509),

Gene: Ali17_25 Start: 20316, Stop: 20762, Start Num: 2

Candidate Starts for Ali17_25:

(Start: 2 @20316 has 7 MA's), (Start: 5 @20328 has 2 MA's), (6, 20337), (8, 20370), (10, 20388), (15, 20439), (20, 20508), (25, 20586),

Gene: Angelicage_27 Start: 22881, Stop: 23288, Start Num: 3

Candidate Starts for Angelicage_27:

(Start: 3 @22881 has 53 MA's), (6, 22902), (15, 23004), (22, 23079), (27, 23166), (29, 23217),

Gene: Ashertheman_29 Start: 21770, Stop: 22165, Start Num: 3

Candidate Starts for Ashertheman_29:

(Start: 3 @21770 has 53 MA's), (8, 21818), (10, 21836), (15, 21887), (23, 21980), (27, 22049), (30, 22124),

Gene: Baddon_28 Start: 22582, Stop: 22965, Start Num: 3

Candidate Starts for Baddon_28:

(Start: 3 @22582 has 53 MA's), (8, 22630), (10, 22648), (15, 22699), (27, 22861), (30, 22936),

Gene: Barsten_29 Start: 22305, Stop: 22712, Start Num: 3

Candidate Starts for Barsten_29:

(Start: 3 @22305 has 53 MA's), (6, 22326), (15, 22428), (22, 22503), (27, 22590), (29, 22641),

Gene: Baumdotcom_28 Start: 21385, Stop: 21780, Start Num: 3

Candidate Starts for Baumdotcom_28:

(Start: 3 @21385 has 53 MA's), (8, 21433), (10, 21451), (15, 21502), (23, 21595), (27, 21664), (30, 21739),

Gene: Belphegor_27 Start: 21865, Stop: 22314, Start Num: 2

Candidate Starts for Belphegor_27:

(Start: 2 @21865 has 7 MA's), (Start: 5 @21877 has 2 MA's), (8, 21919), (20, 22066),

Gene: Bibwit_28 Start: 22492, Stop: 22899, Start Num: 3

Candidate Starts for Bibwit_28:

(Start: 3 @22492 has 53 MA's), (6, 22513), (15, 22615), (22, 22690), (27, 22777), (30, 22852),

Gene: BigHunkinEater_31 Start: 21741, Stop: 22151, Start Num: 4

Candidate Starts for BigHunkinEater_31:

(1, 21726), (Start: 4 @21741 has 9 MA's), (6, 21753), (9, 21801), (10, 21804), (12, 21828), (16, 21858), (19, 21915), (24, 21975),

Gene: Bizzy_29 Start: 21729, Stop: 22112, Start Num: 3
Candidate Starts for Bizzy_29:
(Start: 3 @21729 has 53 MA's), (8, 21777), (10, 21795), (15, 21846), (27, 22008), (30, 22083),

Gene: BobBob_26 Start: 21770, Stop: 22177, Start Num: 3
Candidate Starts for BobBob_26:
(Start: 3 @21770 has 53 MA's), (6, 21791), (15, 21893), (22, 21968), (27, 22055), (29, 22106),

Gene: Brandonk123_30 Start: 22839, Stop: 23246, Start Num: 3
Candidate Starts for Brandonk123_30:
(Start: 3 @22839 has 53 MA's), (6, 22860), (15, 22962), (22, 23037), (27, 23124), (29, 23175),

Gene: ChadMasterC_29 Start: 23497, Stop: 23904, Start Num: 3
Candidate Starts for ChadMasterC_29:
(Start: 3 @23497 has 53 MA's), (6, 23518), (15, 23620), (22, 23695), (27, 23782), (29, 23833),

Gene: Charming_29 Start: 22348, Stop: 22755, Start Num: 3
Candidate Starts for Charming_29:
(Start: 3 @22348 has 53 MA's), (6, 22369), (15, 22471), (22, 22546), (27, 22633), (29, 22684),

Gene: Chickadee_26 Start: 19324, Stop: 19617, Start Num: 17
Candidate Starts for Chickadee_26:
(13, 19300), (Start: 17 @19324 has 7 MA's), (22, 19384), (26, 19441),

Gene: Delrey21_28 Start: 22700, Stop: 23113, Start Num: 4
Candidate Starts for Delrey21_28:
(Start: 4 @22700 has 9 MA's), (6, 22712), (9, 22760), (10, 22763), (16, 22817), (19, 22877), (24, 22937), (28, 22979), (29, 23021),

Gene: Derg_24 Start: 21325, Stop: 21708, Start Num: 3
Candidate Starts for Derg_24:
(Start: 3 @21325 has 53 MA's), (8, 21373), (10, 21391), (15, 21442), (27, 21604), (30, 21679),

Gene: Dxdert_27 Start: 19764, Stop: 20048, Start Num: 17
Candidate Starts for Dxdert_27:
(6, 19656), (13, 19740), (Start: 17 @19764 has 7 MA's), (21, 19821), (26, 19881),

Gene: DoctorFroggo_28 Start: 22700, Stop: 23113, Start Num: 4
Candidate Starts for DoctorFroggo_28:
(Start: 4 @22700 has 9 MA's), (6, 22712), (9, 22760), (10, 22763), (16, 22817), (19, 22877), (24, 22937), (28, 22979), (29, 23021),

Gene: EMoore_25 Start: 21172, Stop: 21603, Start Num: 5
Candidate Starts for EMoore_25:
(Start: 2 @21160 has 7 MA's), (Start: 5 @21172 has 2 MA's), (6, 21181), (7, 21205), (8, 21214), (10, 21232), (15, 21283), (20, 21355),

Gene: EdmundFerry_25 Start: 19353, Stop: 19646, Start Num: 17
Candidate Starts for EdmundFerry_25:
(13, 19329), (Start: 17 @19353 has 7 MA's), (22, 19413), (26, 19470),

Gene: Fitzgerald_27 Start: 22931, Stop: 23338, Start Num: 3

Candidate Starts for Fitzgerald_27:

(Start: 3 @22931 has 53 MA's), (6, 22952), (15, 23054), (22, 23129), (27, 23216), (29, 23267),

Gene: Flatwoods_29 Start: 21686, Stop: 22069, Start Num: 3

Candidate Starts for Flatwoods_29:

(Start: 3 @21686 has 53 MA's), (8, 21734), (10, 21752), (15, 21803), (27, 21965), (30, 22040),

Gene: Fosterous_27 Start: 22764, Stop: 23171, Start Num: 3

Candidate Starts for Fosterous_27:

(Start: 3 @22764 has 53 MA's), (6, 22785), (15, 22887), (22, 22962), (27, 23049), (29, 23100),

Gene: FuegoCuervo_31 Start: 21306, Stop: 21722, Start Num: 3

Candidate Starts for FuegoCuervo_31:

(Start: 3 @21306 has 53 MA's), (6, 21327), (15, 21429), (22, 21504), (27, 21591), (29, 21642),

Gene: GTE6_26 Start: 19842, Stop: 20135, Start Num: 17

Candidate Starts for GTE6_26:

(13, 19818), (Start: 17 @19842 has 7 MA's), (21, 19899), (22, 19902), (26, 19959),

Gene: Gaea_28 Start: 21337, Stop: 21720, Start Num: 3

Candidate Starts for Gaea_28:

(Start: 3 @21337 has 53 MA's), (8, 21385), (10, 21403), (15, 21454), (27, 21616),

Gene: Galadriel_29 Start: 23253, Stop: 23660, Start Num: 3

Candidate Starts for Galadriel_29:

(Start: 3 @23253 has 53 MA's), (6, 23274), (15, 23376), (22, 23451), (27, 23538), (29, 23589),

Gene: Geodirt_26 Start: 22236, Stop: 22643, Start Num: 3

Candidate Starts for Geodirt_26:

(Start: 3 @22236 has 53 MA's), (6, 22257), (15, 22359), (22, 22434), (27, 22521), (29, 22572),

Gene: Gustavo_28 Start: 21477, Stop: 21872, Start Num: 3

Candidate Starts for Gustavo_28:

(Start: 3 @21477 has 53 MA's), (8, 21525), (10, 21543), (15, 21594), (23, 21687), (27, 21756), (30, 21831),

Gene: Hans_29 Start: 20978, Stop: 21424, Start Num: 2

Candidate Starts for Hans_29:

(Start: 2 @20978 has 7 MA's), (Start: 5 @20990 has 2 MA's), (6, 20999), (8, 21032), (9, 21047), (10, 21050), (15, 21101),

Gene: Inspectinfecti_28 Start: 21402, Stop: 21848, Start Num: 2

Candidate Starts for Inspectinfecti_28:

(Start: 2 @21402 has 7 MA's), (Start: 5 @21414 has 2 MA's), (6, 21423), (8, 21456), (9, 21471), (10, 21474), (15, 21525), (20, 21594), (25, 21672),

Gene: JKSyngboy_26 Start: 22046, Stop: 22429, Start Num: 3

Candidate Starts for JKSyngboy_26:

(Start: 3 @22046 has 53 MA's), (8, 22094), (10, 22112), (15, 22163), (27, 22325),

Gene: Jabberwocky_27 Start: 23395, Stop: 23799, Start Num: 3

Candidate Starts for Jabberwocky_27:

(Start: 3 @23395 has 53 MA's), (6, 23416), (15, 23518), (22, 23593), (27, 23677), (29, 23728),

Gene: Kamashten_28 Start: 22841, Stop: 23248, Start Num: 3

Candidate Starts for Kamashten_28:

(Start: 3 @22841 has 53 MA's), (6, 22862), (15, 22964), (22, 23039), (27, 23126), (29, 23177),

Gene: Keitabear_29 Start: 24197, Stop: 24604, Start Num: 3

Candidate Starts for Keitabear_29:

(Start: 3 @24197 has 53 MA's), (6, 24218), (15, 24320), (22, 24395), (27, 24482), (29, 24533),

Gene: Kewpiedoll_28 Start: 22038, Stop: 22445, Start Num: 3

Candidate Starts for Kewpiedoll_28:

(Start: 3 @22038 has 53 MA's), (6, 22059), (15, 22161), (22, 22236), (27, 22323), (29, 22374),

Gene: Kroos_29 Start: 22230, Stop: 22625, Start Num: 3

Candidate Starts for Kroos_29:

(Start: 3 @22230 has 53 MA's), (8, 22278), (10, 22296), (15, 22347), (27, 22509), (30, 22584),

Gene: Kwekel_26 Start: 19283, Stop: 19567, Start Num: 17

Candidate Starts for Kwekel_26:

(6, 19175), (13, 19259), (Start: 17 @19283 has 7 MA's), (21, 19340), (26, 19400),

Gene: Kwobi_30 Start: 22216, Stop: 22611, Start Num: 3

Candidate Starts for Kwobi_30:

(Start: 3 @22216 has 53 MA's), (8, 22264), (10, 22282), (15, 22333), (23, 22426), (27, 22495), (30, 22570),

Gene: Lennon_29 Start: 23999, Stop: 24406, Start Num: 3

Candidate Starts for Lennon_29:

(Start: 3 @23999 has 53 MA's), (6, 24020), (15, 24122), (22, 24197), (27, 24284), (29, 24335),

Gene: Leonard_27 Start: 20976, Stop: 21422, Start Num: 2

Candidate Starts for Leonard_27:

(Start: 2 @20976 has 7 MA's), (Start: 5 @20988 has 2 MA's), (6, 20997), (8, 21030), (10, 21048), (15, 21099), (20, 21168), (25, 21246),

Gene: LilHam_26 Start: 20810, Stop: 21205, Start Num: 3

Candidate Starts for LilHam_26:

(Start: 3 @20810 has 53 MA's), (8, 20858), (10, 20876), (15, 20927), (23, 21020), (27, 21089), (30, 21164),

Gene: Love_32 Start: 23763, Stop: 24170, Start Num: 3

Candidate Starts for Love_32:

(Start: 3 @23763 has 53 MA's), (6, 23784), (15, 23886), (22, 23961), (27, 24048), (29, 24099),

Gene: McCrothy_29 Start: 23562, Stop: 23978, Start Num: 3

Candidate Starts for McCrothy_29:

(Start: 3 @23562 has 53 MA's), (6, 23583), (15, 23685), (22, 23760), (27, 23847), (29, 23898),

Gene: McKinley_31 Start: 23795, Stop: 24202, Start Num: 3

Candidate Starts for McKinley_31:

(Start: 3 @23795 has 53 MA's), (6, 23816), (15, 23918), (22, 23993), (27, 24080), (29, 24131),

Gene: MelBins_28 Start: 21184, Stop: 21630, Start Num: 2

Candidate Starts for MelBins_28:

(Start: 2 @21184 has 7 MA's), (Start: 5 @21196 has 2 MA's), (8, 21238), (9, 21253), (10, 21256), (14, 21289), (15, 21307), (20, 21376),

Gene: MoontowerMania_28 Start: 22606, Stop: 23013, Start Num: 3

Candidate Starts for MoontowerMania_28:

(Start: 3 @22606 has 53 MA's), (6, 22627), (15, 22729), (22, 22804), (27, 22891),

Gene: Natkenzie_29 Start: 22570, Stop: 22980, Start Num: 4

Candidate Starts for Natkenzie_29:

(Start: 4 @22570 has 9 MA's), (6, 22582), (9, 22630), (10, 22633), (12, 22657), (16, 22687), (19, 22744), (24, 22804),

Gene: Nordenberg_23 Start: 21965, Stop: 22372, Start Num: 3

Candidate Starts for Nordenberg_23:

(Start: 3 @21965 has 53 MA's), (6, 21986), (15, 22088), (22, 22163), (27, 22250), (29, 22301),

Gene: Paries_31 Start: 23422, Stop: 23838, Start Num: 3

Candidate Starts for Paries_31:

(Start: 3 @23422 has 53 MA's), (6, 23443), (15, 23545), (22, 23620), (27, 23707), (29, 23758),

Gene: Phauci_20 Start: 17577, Stop: 18011, Start Num: 5

Candidate Starts for Phauci_20:

(Start: 2 @17565 has 7 MA's), (Start: 5 @17577 has 2 MA's), (6, 17586), (8, 17619), (9, 17634), (10, 17637), (15, 17688),

Gene: Phinally_27 Start: 20973, Stop: 21419, Start Num: 2

Candidate Starts for Phinally_27:

(Start: 2 @20973 has 7 MA's), (Start: 5 @20985 has 2 MA's), (6, 20994), (8, 21027), (10, 21045), (15, 21096), (20, 21165), (25, 21243),

Gene: Pumpkiney_30 Start: 19890, Stop: 20300, Start Num: 4

Candidate Starts for Pumpkiney_30:

(Start: 4 @19890 has 9 MA's), (6, 19902), (9, 19950), (10, 19953), (16, 20007), (19, 20064),

Gene: Ribeye_29 Start: 22643, Stop: 23026, Start Num: 3

Candidate Starts for Ribeye_29:

(Start: 3 @22643 has 53 MA's), (8, 22691), (10, 22709), (15, 22760), (27, 22922), (30, 22997),

Gene: RiverRaider_29 Start: 21027, Stop: 21458, Start Num: 3

Candidate Starts for RiverRaider_29:

(Start: 3 @21027 has 53 MA's), (8, 21081), (11, 21105), (15, 21150), (27, 21318), (30, 21393),

Gene: RoadKill_24 Start: 18830, Stop: 19123, Start Num: 17

Candidate Starts for RoadKill_24:

(13, 18806), (Start: 17 @18830 has 7 MA's), (21, 18887), (22, 18890), (26, 18947),

Gene: Rofo_29 Start: 22826, Stop: 23233, Start Num: 3

Candidate Starts for Rofo_29:

(Start: 3 @22826 has 53 MA's), (6, 22847), (15, 22949), (22, 23024), (27, 23111), (29, 23162),

Gene: Sampson_29 Start: 22515, Stop: 22925, Start Num: 4

Candidate Starts for Sampson_29:

(Start: 4 @22515 has 9 MA's), (6, 22527), (9, 22575), (10, 22578), (12, 22602), (16, 22632), (19, 22689), (24, 22749),

Gene: Sanjuju_27 Start: 23007, Stop: 23414, Start Num: 3

Candidate Starts for Sanjuju_27:

(Start: 3 @23007 has 53 MA's), (6, 23028), (15, 23130), (22, 23205), (27, 23292), (29, 23343),

Gene: Saronaya_28 Start: 21477, Stop: 21872, Start Num: 3

Candidate Starts for Saronaya_28:

(Start: 3 @21477 has 53 MA's), (8, 21525), (10, 21543), (15, 21594), (23, 21687), (27, 21756), (30, 21831),

Gene: SchottB_27 Start: 22489, Stop: 22884, Start Num: 3

Candidate Starts for SchottB_27:

(Start: 3 @22489 has 53 MA's), (8, 22537), (10, 22555), (15, 22606), (23, 22699), (27, 22768), (30, 22843),

Gene: Scioto_29 Start: 22570, Stop: 22980, Start Num: 4

Candidate Starts for Scioto_29:

(Start: 4 @22570 has 9 MA's), (6, 22582), (9, 22630), (10, 22633), (12, 22657), (16, 22687), (19, 22744), (24, 22804),

Gene: Sedona_29 Start: 23932, Stop: 24339, Start Num: 3

Candidate Starts for Sedona_29:

(Start: 3 @23932 has 53 MA's), (6, 23953), (15, 24055), (22, 24130), (27, 24217), (30, 24292),

Gene: Shivanishola_30 Start: 22906, Stop: 23313, Start Num: 3

Candidate Starts for Shivanishola_30:

(Start: 3 @22906 has 53 MA's), (6, 22927), (15, 23029), (22, 23104), (27, 23191), (29, 23242),

Gene: Sitar_29 Start: 23999, Stop: 24406, Start Num: 3

Candidate Starts for Sitar_29:

(Start: 3 @23999 has 53 MA's), (6, 24020), (15, 24122), (22, 24197), (27, 24284), (29, 24335),

Gene: StorminNorm_28 Start: 21356, Stop: 21751, Start Num: 3

Candidate Starts for StorminNorm_28:

(Start: 3 @21356 has 53 MA's), (8, 21404), (10, 21422), (15, 21473), (23, 21566), (27, 21635), (30, 21710),

Gene: Stultus_27 Start: 21914, Stop: 22321, Start Num: 3

Candidate Starts for Stultus_27:

(Start: 3 @21914 has 53 MA's), (6, 21935), (15, 22037), (22, 22112), (27, 22199), (29, 22250),

Gene: Tangent_29 Start: 22348, Stop: 22755, Start Num: 3

Candidate Starts for Tangent_29:

(Start: 3 @22348 has 53 MA's), (6, 22369), (15, 22471), (22, 22546), (27, 22633), (29, 22684),

Gene: Tangerine_28 Start: 21362, Stop: 21757, Start Num: 3

Candidate Starts for Tangerine_28:

(Start: 3 @21362 has 53 MA's), (8, 21410), (10, 21428), (15, 21479), (23, 21572), (27, 21641), (30, 21716),

Gene: Tardus_30 Start: 21851, Stop: 22261, Start Num: 4

Candidate Starts for Tardus_30:

(Start: 4 @21851 has 9 MA's), (6, 21863), (9, 21911), (10, 21914), (16, 21968), (19, 22025), (24, 22085),

Gene: Thing3_28 Start: 22841, Stop: 23248, Start Num: 3

Candidate Starts for Thing3_28:

(Start: 3 @22841 has 53 MA's), (6, 22862), (15, 22964), (22, 23039), (27, 23126), (29, 23177),

Gene: Tiamoceli_27 Start: 20181, Stop: 20474, Start Num: 17

Candidate Starts for Tiamoceli_27:

(13, 20157), (Start: 17 @20181 has 7 MA's), (22, 20241), (26, 20298),

Gene: Twonlo_24 Start: 18799, Stop: 19092, Start Num: 17

Candidate Starts for Twonlo_24:

(13, 18775), (Start: 17 @18799 has 7 MA's), (22, 18859), (26, 18916),

Gene: Tycho_28 Start: 21451, Stop: 21846, Start Num: 3

Candidate Starts for Tycho_28:

(Start: 3 @21451 has 53 MA's), (8, 21499), (10, 21517), (15, 21568), (23, 21661), (27, 21730), (30, 21805),

Gene: Verity_28 Start: 22700, Stop: 23113, Start Num: 4

Candidate Starts for Verity_28:

(Start: 4 @22700 has 9 MA's), (6, 22712), (9, 22760), (10, 22763), (16, 22817), (19, 22877), (24, 22937), (28, 22979), (29, 23021),

Gene: ViaConlectus_29 Start: 21194, Stop: 21604, Start Num: 4

Candidate Starts for ViaConlectus_29:

(Start: 4 @21194 has 9 MA's), (6, 21206), (9, 21254), (10, 21257), (16, 21311), (19, 21368), (24, 21428),

Gene: Vivi2_31 Start: 23521, Stop: 23928, Start Num: 3

Candidate Starts for Vivi2_31:

(Start: 3 @23521 has 53 MA's), (6, 23542), (15, 23644), (22, 23719), (27, 23806), (29, 23857),

Gene: YorkOnyx_29 Start: 21719, Stop: 22102, Start Num: 3

Candidate Starts for YorkOnyx_29:

(Start: 3 @21719 has 53 MA's), (8, 21767), (10, 21785), (15, 21836), (27, 21998), (30, 22073),

Gene: Zipp_28 Start: 22597, Stop: 23010, Start Num: 4

Candidate Starts for Zipp_28:

(Start: 4 @22597 has 9 MA's), (6, 22609), (9, 22657), (10, 22660), (16, 22714), (19, 22774), (24, 22834), (28, 22876),

Gene: Zitch_30 Start: 20474, Stop: 20884, Start Num: 4

Candidate Starts for Zitch_30:

(1, 20459), (Start: 4 @20474 has 9 MA's), (6, 20486), (9, 20534), (10, 20537), (12, 20561), (16, 20591), (19, 20648), (24, 20708),