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Dissection of Drosophila Melanogaster Flight Muscles for Omics Approaches

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Munich, 03.07.2019

Dr. Xiaoyan Cao
Review Editor, JoVE
1 Alewife Center, Suite 200
Cambridge, MA 02140

Dear Dr. Cao,

Thank you for forwarding the reviews and for the possibility to submit a revised protocol to *JoVE*. We have revised our manuscript entitled "**Dissection of *Drosophila melanogaster* flight muscles for Omics approaches",** and I have submitted all associated documents.

We have made significant changes to the text, correcting grammar and spelling, removing commercial language, revising confusing steps in the protocol and expanding the Representative Results and Discussion sections as requested by the reviewers. We have expanded the Table of Materials to cover all materials used in the protocol and to generate the data presented in Representative Results. We have expanded multiple sections in the Supplemental Materials and Methods, discussing various equipment and dissection techniques in greater detail. We added new panels to Figures 2 and 3 in the Fire LUT to help visualize differences in GFP intensity, and have increased the "N" for testing yield between RNA isolation kits in Figure 4. We have generally addressed all reviewer comments, and include a point-by-point response for your consideration.

I hope this revised version of our manuscript meets *JoVE* publication standards, and I look forward to working on the accompanying video protocol.

With best wishes,

Maria L Spletter

Maria Spletter

TITLE:

Dissection of Drosophila Melanogaster Flight Muscles for Omics Approaches

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KEYWORDS:

Drosophila, developmental biology, indirect flight muscle, live dissection, pupal development, mass spectrometry, RNA-Seq, RNA isolation, Bruno1, alternative splicing

SUMMARY:

Drosophila flight muscle is a powerful model to study transcriptional regulation, alternative splicing, metabolism, and mechanobiology. We present a protocol for dissection of fluorescent-labeled flight muscle from live pupae to generate highly enriched samples ideal for proteomics and deep-sequencing. These samples can offer important mechanistic insights into diverse aspects of muscle development.

ABSTRACT:

Drosophila flight muscle is a powerful model to study diverse processes such as transcriptional regulation, alternative splicing, metabolism, and mechanobiology, which all influence muscle development and myofibrillogenesis. Omics data, such as those generated by mass spectrometry or deep sequencing, can provide important mechanistic insights into these biological processes. For such approaches, it is beneficial to analyze tissue-specific samples to increase both selectivity and specificity of the omics fingerprints. Here we present a protocol for dissection of fluorescent-labeled flight muscle from live pupae to generate highly enriched muscle samples for omics applications. We first describe how to dissect flight muscles at early pupal stages (<48 h after puparium formation [APF]), when the muscles are discernable by green fluorescent protein (GFP) labeling. We then describe how to dissect muscles from late pupae (>48 h APF) or adults, when muscles are distinguishable under a dissecting microscope. The accompanying video protocol will

make these technically demanding dissections more widely accessible to the muscle and *Drosophila* research communities. For RNA applications, we assay the quantity and quality of RNA that can be isolated at different time points and with different approaches. We further show that Bruno1 (Bru1) is necessary for a temporal shift in myosin heavy chain (*Mhc*) splicing, demonstrating that dissected muscles can be used for mRNA-Seq, mass spectrometry, and reverse transcription polymerase chain reaction (RT-PCR) applications. This dissection protocol will help promote tissue-specific omics analyses and can be generally applied to study multiple biological aspects of myogenesis.

INTRODUCTION:

Modern omics technologies provide important insights into muscle development and the mechanisms underlying human muscle disorders. For example, analysis of transcriptomics data combined with genetic and biochemical verification in animal models has revealed that loss of the splicing factor RBM20 causes dilated cardiomyopathy due to its regulation of a target network of more than 30 sarcomere genes previously associated with heart disease, including titin[1-3].

In a second example, studies from cell culture, animal models, and human patients have shown that myotonic dystrophy is caused by a disruption in RNA regulation due to sequestration of Muscleblind (MBNL) and upregulation of CELF1[4,5]. The cross-regulatory and temporal dynamics between MBNL and CELF1 (also called CUGBP1 or Bruno-Like 2) helps to explain the persistent embryonic splicing patterns in myotonic dystrophy patients. Additionally, the large network of misregulated targets helps to explain the complex nature of the disease[4,6-8]. A majority of such studies utilize omics approaches in genetic model organisms to understand the mechanisms underlying human muscle disease. Furthermore, they highlight the importance of first understanding temporal and tissue-type specific gene expression, protein modification, and metabolic patterns in healthy muscle to understand alterations in diseased or aging muscle.

Drosophila melanogaster is another well-established genetic model organism. The structure of the sarcomere as well as individual sarcomere components are highly conserved from flies to vertebrates[4,9,10], and the indirect flight muscles (IFMs) have become a powerful model to study multiple aspects of muscle development[11,12]. First, the fibrillar flight muscles are functionally and morphologically distinct from tubular body muscles[11,13], allowing investigation of muscle-type specific developmental mechanisms. Transcription factors including Spalt major (Salm)[14], Extradenticle (Exd), and Homothorax (Hth)[15] have been identified as fibrillar fate regulators. Additionally, downstream of Salm, the CELF1 homolog Bruno1 (Bru1, Aret) directs a fibrillar-specific splicing program[16,17].

Second, IFMs are an important model for understanding the process of myogenesis itself, from myoblast fusion and myotube attachment to myofibrillogenesis and sarcomere maturation[9,18,19]. Third, *Drosophila* genetics permits investigation of contributions by individual proteins, protein domains, and protein isoforms to sarcomere formation, function, and biophysical properties[20-23]. Lastly, IFM models have been developed for the study of multiple human muscle disorders, such as myotonic dystrophy, myofibrillar myopathies, muscle degenerative disorders, actinopathies,

etc.[24-27], and have provided important insights into disease mechanisms and potential therapies[28-30]. Thus, *Drosophila* is a useful model to address many open questions in the myogenesis field, including understanding of the mechanisms of muscle-type specific transcription, splicing, and chromatin regulation, as well as to the role of metabolism in muscle development. The application of modern omics technologies, in particular in combination with the wide variety of genetic, biochemical and cell biological assays available in *Drosophila*, has the potential to dramatically advance the understanding of muscle development, aging, and disease.

IFMs are the largest muscles in the fly, spanning nearly 1 mm across the entire length of the thorax in adults[31,32]. However, this small size generates the challenge of obtaining enough sample to apply omics technologies in *Drosophila* in a tissue-type specific manner. Moreover, IFMs are part of the adult musculature that is formed during pupal stages. They form via myoblast fusion to form myotubes, which attach to tendons around 24 h after puparium formation (APF) and undergo a compaction step necessary to initiate myofibrillogenesis around 30 h APF (**Figure 1A-D**)[18,33,34].

The myofibers then grow to span the entire length of the thorax, with myofibrils undergoing an initial growth phase focused on sarcomere addition until about 48 h APF, and then transitioning to a maturation phase, in which sarcomeres grow in length and width and are remodeled to establish stretch-activation by 72 h APF (**Figure 1A-D**)[32,35]. The onset of fiber maturation is at least partially controlled by Salm and E2F[32,36,37], and multiple IFM-specific sarcomere protein isoforms whose splicing is controlled by Bru1 are incorporated during this phase[16,17]. Mature flies eclose from 90–100 h APF. This means that to study muscle development, IFM has to be isolated with sufficient quantity, quality, and purity from multiple pupal timepoints to facilitate analysis using omics approaches.

Several protocols for IFM dissection have been published. While these protocols work well for their intended applications, none are ideal for omics approaches. Protocols that preserve IFM morphology for immunofluorescence of pupal and adult IFMs[19], isolate IFM fibers for mechanical evaluation[31], or utilize microdissection of pupal IFM from cryosections[38] are too specialized and time and labor intensive to reasonably obtain sufficient amounts of IFM tissue for omics applications. Other protocols have been developed for rapid dissection of specifically adult IFM[38,39], thus are not applicable to pupal stages, and use buffers that are not ideal or may be incompatible with, for example, RNA isolation. Thus, there is a need to develop new approaches to isolate pupal IFM for biochemistry or omics applications.

Here we present a protocol for the dissection of IFM during pupal stages that have been used successfully for mRNA-Seq analysis from 16 h APF through adult stages[16,32]. The protocol employs a green fluorescent protein (GFP) label to identify IFMs at all stages of pupal and adult development, allowing live dissection under a fluorescent dissecting microscope. The approach is less labor-intensive, with a higher throughput than existing IFM dissection protocols. This allows rapid isolation and cryopreservation of samples, generating enough material after several rounds of dissection for omics approaches as well as for standard reverse transcription polymerase chain reaction (RT-PCR) or western blotting.

We present the protocol in two parts, demonstrating how to rapidly dissect IFMs both before 48 h APF (during early metamorphosis, when IFM attachments are more tenuous) and after 48 h APF (when the pupal body plan and IFM attachments are well-defined). We demonstrate that we can isolate high quality RNA from dissected IFMs at all timepoints and present data on different approaches to RNA isolation and reverse transcription. Lastly, we demonstrate the application of the dissection protocol to mRNA-Seq, mass spectrometry, and RT-PCR using the CELF1 homolog Bruno1 as an example. We show misexpression of sarcomere protein isoforms in proteomics data from Bruno1 mutant IFM and examine Bruno1 regulation of the C-terminal splice event of Myosin heavy chain (*Mhc*). These results illustrate how omics data can provide a deeper understanding of biological phenomena, complementing genetic and biochemical experiments.

PROTOCOL:

1. Staging the pupae

1.1. Raise flies of the desired genotype in bottles (**Figure 1E**). Either make a fresh flip of the dissection stock or set a cross with at least 20 female virgin flies. Maintain bottles until the flies begin to pupate.

1.2. Collect pre-pupae with a wetted paintbrush and transfer to wetted filter paper in a 60 mm Petri dish (**Figure 1F**).

1.3. Sex the pupae, collecting the appropriate gender for the experiment (**Figure 1G**). Males are identified by the presence of testes, which appear as translucent balls in the otherwise opaque pupa.

1.4. Label the Petri dish with the time, date, and genotype, then age the pupae to the desired stage (**Figure 1H**).

NOTE: Maintain crosses/stocks and age pupae in a temperature-controlled incubator (i.e., 25 °C or 27 °C for RNAi crosses, as increased Gal4 activity at higher temperatures increases knock-down efficiency[40]). Ensure that the humidity is sufficiently high so pupae do not dry out when aging several days.

2. IFM dissection before 48 h APF

2.1. Assemble the necessary equipment including two #5 biology grade forceps, a pipette, pipette tips, dry ice, and (for RNA samples) isolation reagent (see **Table of Materials**). In addition, chill black dissecting dishes (see **Table of Materials**), 1x phosphate-buffered saline (PBS) buffer, and 1.5 mL microcentrifuge tubes on ice.

2.2. Using a wetted paintbrush, transfer staged pupae to a black dissecting dish filled about two-thirds with cold 1x PBS (**Figure 2A,B**). Move to a fluorescent dissecting microscope.

NOTE: Use as many pupae as can be dissected within a 30 min time window. Depending on experience, this ranges from 3–15 pupae. See **Supplemental Methods** for discussion of alternatives to black dissecting dishes.

2.3. Using #5 forceps, push one of the pupae to the bottom of a black dissecting dish and adjust the microscope zoom and focus to clearly see the pupa (**Figure 2C**).

2.4. Grasp the anterior of the pupa with one forceps (**Figure 2D**), then poke the pupae with a single tip of the other forceps slightly off-center in the abdomen, just behind the thorax. This holds the pupa in place and prevents the IFMs from moving into the abdomen (**Figure 2E**).

NOTE: Begin timing the length of dissection from this point, as soon as pupal integrity is disrupted. Use a defined length of dissection (for example 20–30 min) to minimize muscle death and associated transcriptomic and proteomic changes. Dissect as many flies as possible in this period of time.

2.5. Using the first forceps, remove the anterior half of the pupal case (**Figure 2F**).

2.6. Use the same forceps to pinch the exposed pupae just behind the thorax, and separate the abdomen from the thorax (**Figure 2G**).

2.7. Using the forceps, gently squeeze the anterior part of the thorax (for <35 h APF) or rip open the thorax to expose the fluorescently labeled IFMs (**Figure 2H**). Tendon attachments at early timepoints are fragile, and IFMs can easily detach from the epidermis. Discard the remaining carcass using forceps to push it to the opposite side of the dish.

2.8. Repeating steps 2.3–2.7, dissect additional pupae.

2.9. Collect the IFM fibers with forceps and organize them into a pile at the bottom of the black dissecting dish (**Figure 2I,J**). Remove any debris by pushing it out of the field of view using forceps.

NOTE: With practice, forceps tips can be brought into close proximity without touching each other. This technique can be used to loosely grab IFMs without destroying them. Alternate methods include gently pushing or lifting the IFMs with a single tip or completely closed forceps, or taking some fat or other tissue with the IFM and removing the fat as described in step 2.10.

2.10. Quality control the IFM muscle sample, using the forceps to remove non-IFM muscles, fat, cuticle, etc. from the sample (**Figure 2K,L**).

NOTE: With Mef2-Gal4, IFM is labeled more strongly than other muscle types at early timepoints (**Figure 2K,K'**), allowing removal of jump muscle and larval muscles based on fluorescence intensity and muscle shape. Fat and cuticle tissue look different and are not labeled by a muscle-specific fluorescence label (**Figure 2K,K'**). See the discussion section for other Gal4 lines that label

221 IFM.
222
223 2.11. Using a clipped pipette tip, transfer the pile of IFMs into a 1.5 mL microcentrifuge tube filled
224 with 250 µL of chilled 1x PBS (**Figure 2M-O**). Proceed immediately to section 4.
225
226 NOTE: IFM samples may be lost simply by sticking to the side of the pipette tip. Pipetting buffer
227 up and down several times before collecting IFMs can make standard tips less sticky, and
228 siliconized or perfluoroalkoxy (PFA) tips (see **Table of Materials**) with lower surface tensions can
229 help prevent sample loss.
230
231 **3. IFM dissection after 48 h APF**
232
233 3.1. Assemble necessary equipment including two #5 biology grade forceps, fine scissors,
234 standard glass microscope slides, double-stick tape, pipette, pipette tips, dry ice, and (for RNA
235 applications) isolation reagent (see **Table of Materials**). Chill the 1x PBS and microcentrifuge
236 tubes on ice.
237
238 3.2. Using a lightly wetted paintbrush, transfer the staged pupae to a strip of double-sided sticky
239 tape mounted on a microscope slide (**Figure 3A**). Place the pupae in a line oriented in the same
240 orientation (ventral down and anterior towards the bottom of the slide).
241
242 NOTE: Be careful not to use too much water on the paintbrush or filter, or the pupae will not stick
243 well. If pupae do not stick, dry them by first transferring to a dry filter or tissue paper. Mount as
244 many pupae as can be dissected within a 30 min time window, ideally ~10 pupae.
245
246 3.3. Remove the pupa from the pupal case. Use forceps to tease apart and open the pupal case
247 above the anterior spiracles (**Figure 3B**).
248
249 3.4. Gently slide a pair of forceps dorsally towards the posterior, cutting the pupal case as the
250 forceps move (**Figure 3B'**). Be careful not to rupture the underlying pupa. Liberate the pupa from
251 the opened case and immediately transfer it to a drop of 1x PBS on a second microscope slide
252 (**Figure 3B'',C**).
253
254 3.5. Repeat steps 3.3 and 3.4 for all pupae in the line, then set the double-stick tape slide aside.
255
256 3.6. Using the fine scissors, cut the abdomen of the pupa away from the thorax and push it into
257 a separate pile (**Figure 3D,D'**). Repeat for the remaining pupae.
258
259 NOTE: Begin timing the length of dissection with step 3.6, as soon as pupal integrity is disrupted.
260 Dissect as many flies as possible in 20–30 min to prevent cell death and associated transcriptomic
261 and proteomic changes. When dissecting 1 d adults or >90 h pupae, it is often convenient for
262 later steps to additionally remove the head with the fine scissors.
263
264 3.7. Using a tissue paper, remove the majority of the 1x PBS (generally cloudy with suspended

fat) as well as the pile of abdomens (**Figure 3E**). Add a drop of fresh, chilled 1x PBS to the remaining thoraxes.

3.8. Use the scissors to cut the thorax in half (**Figure 3F,F'**) by cutting from the head down the longitudinal body axis in a single motion. Alternately, if the head has been removed, first insert the scissors where the head was attached and cut the top half of the thorax longitudinally between the IFMs. Then, cut the ventral side of the thorax with a second cut in the same orientation.

3.9. Repeat steps 3.7 and 3.8 for all pupae to be dissected, generating a pile of thorax hemisections near the center of the slide. Ensure there is enough chilled 1x PBS on the slide so that the hemisections do not dry out.

NOTE: After 48 h APF, IFMs are large enough to be visible under a standard dissecting microscope to the trained eye. At this point in the protocol, muscles with a fluorescent label can be moved to a fluorescent dissecting scope to aid in IFM identification or for training purposes, but this is not necessary.

3.10. Dissect the IFMs out of the thorax. Isolate one of the hemisections using the #5 forceps (**Figure 3G,H**). Gently insert the tips of one forceps above and below the middle of the IFMs (**Figure 3G',H'**). While holding the first forceps still, use fine scissors to cut one end of the IFM away from the cuticle and tendons. Then, cut the other end of the IFM free from the cuticle (**Figure 3G'',H''**).

NOTE: Depending on the orientation of the thorax after the first IFM cut, it is useful to rotate the thorax 180° so that the second IFM cut is easier to perform.

3.11. Remove the IFM bundle from the thorax with forceps (**Figure 3G''',H'''**), transferring it to the edge of the PBS bubble to use water tension to hold it in place (**Figure 3I**). Push the carcass to the opposite side of the slide. Repeat for the remaining thorax hemisections, generating a collection of dissected IFMs.

NOTE: If the IFMs do not stay in a neat pile, remove some of the 1x PBS with a tissue. Be careful not to let all of the PBS evaporate, and ensure that the dissected IFMs and hemithoraxes remain covered by buffer.

3.12. After dissecting all IFMs, quickly perform a quality control on the dissected muscle. Using #5 forceps, remove any jump muscle or cuticle fragments that may have found their way into the sample (**Figure 3J-K"**).

NOTE: Jump muscle appears different from IFM. If dissecting Mef2-Gal4 labeled muscle under fluorescence, jump muscle has a weaker fluorescence and a different shape and texture. Under normal light, it appears nearly translucent while the IFMs are an opaque, milky yellow (**Figure 3J-J",H**).

3.13. Using water tension, capture (but do not squish) the dissected IFMs between a pair of forceps (**Figure 3L**). Transfer the IFMs to a 1.5 mL microcentrifuge tube pre-filled with 250 µL of chilled 1x PBS (**Figure 3M**). Proceed immediately with section 4.

NOTE: When forceps tips are brought into proximity of each other and lifted out of a buffer solution, water tension causes a bubble of buffer to be captured between the forceps tips. If IFMs are also present in this bubble, they can be lifted out of the solution and easily transferred to another buffer-filled receptacle. It is important to squeeze the forceps to bring the tips near one another without touching each other, to avoid macerating the tissue captured in the buffer bubble.

4. Pellet and preserve the IFM sample

4.1. Pellet the IFMs by centrifuging the 1.5 mL microcentrifuge tube for 3–5 min at 2,000 x *g* in a table-top centrifuge (**Figure 4A,B**).

4.2. Remove the buffer using a pipette tip (**Figure 4C).**

4.3. For RNA applications, resuspend the IFM pellet in 50–100 µL of the desired RNA isolation buffer (see **Table of Materials**, **Figure 4D**). Otherwise, proceed to step 4.4.

NOTE: IFMs can be dry-frozen after step 4.2 for mass spectrometry preparations or isolation of RNA with commercial kits (see representative results). For RNA applications, better results are obtained by immediately resuspending and freezing the IFM pellet in isolation buffer.

4.4. Freeze sample on dry ice or snap freeze in liquid nitrogen (**Figure 4E**). Store at -80 °C until ready for subsequent steps in sample preparation for downstream analysis.

NOTE: After cryopreservation, samples can be stored for several months before processing for downstream investigation.

REPRESENTATIVE RESULTS:

The dissection protocols presented above are useful to generate IFM-enriched samples from 16 h after puparium formation (APF) until the adult stage. Dissected flight muscle samples can be used for multiple applications, and have so far been successfully applied for RT-PCR[4,17], RNA-Seq[16,32], ChIP[36,37], Western blotting[14,41] and mass spectrometry experiments (see below). To help potential users dissecting for RNA-based applications, we first present our results highlighting important considerations specifically for isolation of RNA from IFMs. To more broadly demonstrate the utility of our dissection protocols, we then illustrate some of the possible –omics applications using our data on the RNA-binding protein Bruno1.

IFM dissection protocol yields high quality RNA

353 It is important to determine the number of flies to be dissected in advance, as coding mRNA is
354 estimated to constitute only 1–5% of total RNA[42]. We obtained on average 24 ± 9 ng of total RNA
355 per fly from IFM dissected from 1 d adults (**Figure 4F** and **Supplemental Figure 1A**), with yields
356 typically increasing with experience. This yield of total RNA per fly is relatively constant,
357 fluctuating around 25 ng for IFM dissected at 16 h APF, 24 h APF, 30 h APF, 48 h APF, 72 h APF
358 and 90 h APF (**Figure 4F** and **Supplemental Figure 1B,D,E**). These observations also reflect any
359 RNA isolated from contaminating fat, tendon, trachea or other cell types, which may be higher in
360 samples isolated from earlier timepoints. Thus, we obtained >1 µg of total RNA from IFM from
361 50 flies and typically dissect IFM from 100−150 flies to generate >3 µg of total RNA for RNA-Seq
362 samples.
363
364 The method of RNA isolation affects the quantity and quality of recovered RNA, and we
365 encourage users to validate their isolation approach. For example, while isolation using method
366 1 produces on average 1143 ± 465 ng of total RNA from IFM from 50 1 d adult flies, isolation with
367 various commercial kits yields anywhere from 186 ± 8 ng to 1261 ± 355 ng of total RNA (**Figure**
368 **4G** and **Supplemental Figure 1C**). RNA isolated from commercial kits is generally of good quality
369 (**Figure 4H** and **Supplemental Figure 1F**), but low recoveries suggest that RNA may not be
370 efficiently eluted from the columns. RNA integrity can also be compromised by use of a kit as
371 done in method 2 (**Figure 4H**, second plot), likely due to buffer constitution and heat treatments,
372 leading to severe fragmentation that can impact downstream experiments.
373
374 It is also important to observe proper RNase-free technique when isolating and handling RNA
375 samples. Although freeze-thaw cycles and a 4 h room temperature incubation do not
376 dramatically impact RNA integrity profiles, even small amounts of RNase lead to rapid RNA
377 degradation (**Figure 4I** and **Supplemental Methods**). Users are still encouraged to work on ice
378 and limit freeze-thaw to prevent RNA hydrolysis and fragmentation. This was not detected here
379 but preventing RNase contamination by using filter tips and DEPC-treated buffers is absolutely
380 essential.
381
382 The efficiency of reverse transcription also impacts the success of downstream applications. We
383 obtained reliable results with two of three commercial RT kits we tested, which both amplify
384 strong RT-PCR bands for ribosomal gene *rp49* (**Figure 4J**). However, RT Kit #2 may be more
385 sensitive for the detection of low-expressed transcripts, as we obtained stronger bands for the
386 RNA-binding protein *bru1* for all three biological replicates (**Figure 4J**). Taken together, these
387 results illustrate that high-quality RNA can be isolated from IFMs dissected with this procedure.
388
389 **Dissected IFMs produce high quality mRNA-Seq and proteomics data**
390
391 Using IFM dissected according to the above protocol at 30 h APF, 72 h APF and from 1 d adult
392 flies, we previously showed that the RNA-binding protein and CELF1-homologue Bruno1 (Bru1,
393 Arrest, Aret) controls an IFM-specific splicing pathway downstream of the transcription factor
394 Spalt major (Salm)[16]. IFMs from null mutants as well as flies with muscle-specific *bruno1* RNAi
395 (*bru1-IR*) display sarcomere growth defects, misregulation of myosin activity and ultimately
396 hypercontraction and loss of muscle fibers[16,17]. Below we demonstrate the utility of dissected

397 IFMs for whole proteome mass spectrometry and show that several of the expression changes
398 we observed on the RNA level are also evident on the protein level. We further highlight a specific
399 developmental splice event in *Mhc* that was found to be regulated by Bruno1, illustrating that
400 mRNA-Seq and RT-PCR from dissected IFMs can be used to demonstrate the regulation of
401 alternative splice events.
402
403 Depending on library quality and depth, mRNA-Seq data can be analyzed on the level of gene
404 units (averaging read counts over all exons of a gene), individual exons, or splice junctions. mRNA-
405 Seq data from *bru1-IR* IFMs compared to wildtype shows weak changes in expression on the gene
406 unit level[16] (**Figure 5A**). At 72 h APF, there is already a trend for sarcomere genes such as muscle
407 LIM protein at 60A [Mlp60A], actin 57B [Act57B], muscle-specific protein 300 kDa [Msp300], or
408 Stretchin-Mlck [Strn-Mlck]) that are important for proper muscle development to be
409 downregulated in *bru1-IR* muscle (**Figure 5A** and **Supplemental Table 1**). However, we have
410 shown previously that on the level of individual exons, there is a much stronger downregulation
411 of specific sarcomere gene isoforms[16], suggesting the major function of Bruno1 is to control
412 alternative splicing (**Supplemental Table 1**).
413
414 Using whole-proteome mass spectrometry on dissected IFMs, we can show similar regulation on
415 the protein level (**Figure 5B** and **Supplemental Table 2**). Of the 1,895 peptide groups detected,
416 524 (28%) of them are misregulated in $Bru1^{M2}$ mutant IFM in 1 d adults (**Supplemental Table 2**).
417 Downregulation of both Strn-Mlck and Mlp60A protein is also observed, matching observations
418 at the transcript level in our mRNA-Seq data. Despite the limited number of database peptides
419 that map to specific protein isoforms (see **Supplemental Methods** for analysis details), for
420 sarcomere proteins Tropomyosin 1 (Tm1), upheld (up/TnT), Mhc, bent (bt/projectin) and
421 Paramyosin (Prm) we observe upregulation of peptides from one isoform and downregulation of
422 another (**Figure 5B**), confirming our previous observations of similar regulation on the RNA
423 level[16]. This demonstrates that dissected IFMs are useful for both mRNA-Seq and proteomics
424 applications.
425
426 As a further example of how omics data can complement traditional approaches to enhance and
427 extend biological insight, we chose to focus on splicing at the C-terminus of *Mhc*. A previously
428 characterized protein trap line called *weeP26* is inserted in the final intron of *Mhc*[43,44] (see
429 **Supplemental Methods** for exact location). *weeP26* contains a strong splice acceptor and is
430 incorporated into presumably all *Mhc* transcripts (**Figure 5C**). However, the GFP labeled protein
431 in IFM is incorporated into two "dots" on either side of the M-line, while in leg muscle, it
432 incorporates uniformly across the M-line and weakly across the thick filaments (**Figure 5E**).
433 Orfanos and Sparrow showed these "dots" in IFM form due to a developmental *Mhc* isoform
434 switch: the *Mhc* isoform expressed before 48 h APF is GFP-labeled as the *weeP26* exon inserts in
435 the open read frame, while the *Mhc* isoform expressed after 48 h APF is unlabeled, as the *weeP26*
436 exon is included downstream of the stop codon in the 3'-UTR[44].
437
438 Our mRNA-Seq data allowed us to characterize C-terminal *Mhc* isoform expression in greater
439 detail. While two different *Mhc* terminations have been reported[43,44], our mRNA-Seq data and
440 current Flybase annotation (FB2019_02) suggest that there are actually three possible alternative

441 splice events at the *Mhc* C-terminus (Exon 34-35, 34-36, or 34-37) (**Figure 5C**), which is confirmed
442 by RT-PCR (**Figure 5D**). *weeP26* GFP is inserted in the intron between Exon 36 and 37; thus, as
443 both Exon 34-35 and Exon 34-36 isoforms contain stop codons, GFP can only translated in the
444 Exon 34-37 isoform (resulting in Exon 34-GFP-37). We further could see both temporal and spatial
445 regulation of all *Mhc* isoforms. In IFM, we observe an *Mhc* isoform switch from Exon 34-37 to
446 Exon 34-35 between 30 h APF and 48 h APF (**Figure 5C,D,F**) at 27 °C, even though this is not yet
447 visible by immunofluorescence at 48 h APF (**Figure 5E**). Legs already express a mixture of Exon
448 34-37 and Exon 34-35 at 30 h APF, and by 72 h APF express all three *Mhc* isoforms (**Figure 5D,F**).
449 Adult jump muscle (TDT) also expresses all three *Mhc* isoforms (**Figure 5F**), suggesting this is
450 generally true for tubular somatic muscles. Thus, our mRNA-Seq data allow extension of previous
451 findings by narrowing the timeframe for the *Mhc* isoform switch in IFM and characterizing *Mhc*
452 isoform use in tubular muscles.
453
454 *Mhc* isoform regulation in *salm* and *bru1* mutant IFM were then examined. In both cases, we saw
455 misregulation of *weeP26*. *Salm* mutant IFMs fail to complete the developmental switch in *Mhc*
456 isoform expression and phenocopy leg splicing patterns at later stages, including gain of the Exon
457 34-36 event (**Figure 5F**). This agrees with previous findings that loss of Salm results in a near-
458 complete fate transformation of IFM to tubular muscle[16]. *Bru1-IR and bru1* mutant IFM, similar
459 to $salm^{-/-}$ IFM, retains the Exon 34-37 splice event through adult stages (**Figure 5E,F**), resulting in
460 a *weeP26* GFP labeling pattern resembling leg muscle, but it does not gain the Exon 34-36 event.
461 This suggests that Bruno1 is necessary in IFM to at least partially control the developmental
462 switch in *Mhc* alternative splicing, but it indicates that additional splicing factors are also
463 misregulated in the $salm^{-/-}$ context. Furthermore, this example illustrates how RT-PCR and mRNA-
464 Seq data from dissected IFM can be valuable in gaining a deeper understanding of developmental
465 splicing mechanisms and observed morphological defects.
466
467 **FIGURE AND TABLE LEGENDS:**
468
469 **Figure 1: IFM development and staging of pupae.** (**A**) Schematic of IFM development at 24 h
470 APF, 32 h APF, 48 h APF, 72 h APF, and 1 d adults showing compaction of flight muscles (green)
471 at ~32 h APF and subsequent fiber growth to fill the thorax. Tendons are in dark grey. (**B**) Confocal
472 images of fixed IFMs from open book dissections (24 h, 32 h, 48 h)[19] or thorax hemisections (72
473 h, 1 d) stained for actin (rhodamine phalloidin, magenta) and GFP (green). (**C,D**) Images of GFP
474 fluorescence in live pupae illustrating intact IFM morphology of the dissection fly line in the dorsal
475 (C) or lateral (D) plane. Asterisks mark IFM location. (**E**) To prepare for dissections, fly stocks
476 should be flipped or crosses set 3–4 days in advance. (**F**) Prepupae are selected by their white
477 color (yellow arrowheads) and isolated using a wetted paintbrush (F',F''). (**G**) Prepupae should
478 be sexed to separate females from males based on the presence of testes which appear as
479 posteriorly located translucent balls (yellow asterisks). (**H**) Pupae are aged on wetted filter paper
480 in 60 mm dishes. Scale bars = 100 µm (B), 1 cm (C,D,E,H), 1 mm (F,F",G).
481
482 **Figure 2: Dissection of IFMs before 48 h APF.** (**A**) Addition of 1x PBS buffer to a black dissecting
483 dish with a transfer pipette. (**B**) Transfer of staged pupae using a paintbrush. (**C**) Under a
484 fluorescent dissecting microscope to visualize GFP, gentle pushing of the pupa to the bottom of

485 a dissecting dish using #5 forceps (outlined in grey). The "X" in a circle denotes motion into the
486 image. (**D,E**) Grasping of the pupae anteriorly (D), then poking of the pupae just behind the thorax
487 (E). Dash in a circle denotes no motion. (**F,G**) Pulling with the anterior forceps (arrow) to remove
488 the pupal case (F), then removal of the abdomen (G). (**H**) Repetition of C-G for several pupa.
489 Yellow dotted lines are numbered denoting contributing pupae. (**I, J**) Use of the forceps (I) to
490 isolate IFMs from surrounding tissue (J). Dot in a circle denotes motion out of the page. (**K,L**)
491 Removal of contaminants including fat and jump (TDT) muscles (K) to generate a clean IFM
492 sample (L). TDT has lower GFP expression and a different shape than IFM fibers (**K'**). (**M,N,O)** Use
493 of a clipped pipette tip (M) to collect dissected IFMs (N) and its transfer to a microcentrifuge tube
494 (O). Scale bars = 1 cm (A,B,M,O), 1 mm (C-G), 500 µm (H-L,N).
495
496 **Figure 3: Dissection of IFMs after 48 h APF.** (**A**) Aligning of pupae on double-stick tape. (**B**)
497 Removal of pupae from the pupal case by opening anteriorly (B), cutting the case dorsally (**B'**),
498 and lifting out the pupa (**B''**). Circle symbols represented the same as Figure 2. (**C**) Transfer of
499 pupae to buffer. (**D**) Removal of the abdomen by cutting with scissors (yellow double arrows) and
500 separation of from thoraxes (**D'**). (**E, F**) Addition of clean buffer (E), then cutting of thoraxes in
501 half longitudinally (**F,F'**). (**G,H**) Dissections can be performed under white light (G) or fluorescence
502 to visualize the GFP (H); cutting of the IFMs on one side (G'), then the other side (G''); lifting out
503 of the thorax with forceps (outlined in grey) (G'''). (**I,J,K**) Collection of IFMs in buffer (I) and
504 removal of contaminating ventral nerve cord (VNC), gut, and jump muscle (TDT) (J) to generate a
505 clean IFM sample (K). TDT has lower GFP expression and a different shape than IFM fibers (J", K').
506 (**L,M**) Use of forceps to transfer IFMs (L) to a microcentrifuge tube (M). Scale bars = 1 cm (A,E,M),
507 1 mm (B-D',F-L).
508
509 **Figure 4: IFM preservation and RNA isolation details.** (**A**) IFMs are pelleted by centrifugation for
510 5 min at 2000 x *g*. (**B**) IFM pellet (arrow) and pellet under fluorescence (B'). (**C**) Removal of all
511 buffer with a pipette tip. (**D**) For RNA extraction, resuspension of pellet in isolation buffer. This
512 step can be skipped to dry-freeze dissected IFMs. (**E**) Freezing of sample in liquid nitrogen or on
513 dry ice and storage at -80 °C. Scale bars = 10 cm (A), 1 mm (B,B'), 1 cm (C,D,E). (**F**) Nanograms
514 (ng) of total RNA from dissected IFM obtained per fly at 16 h APF, 24 h APF, 30 h APF, 48 h APF,
515 72 h APF, 90 h APF, and 1 d adult. Error bars = SD. (**G**) Total RNA isolated from IFM dissected from
516 50 1 d adult flies using different extraction methods. Error bars = SD. (**H**) Representative traces
517 to assay RNA integrity after different extraction methods. The ribosomal bands run just below
518 2000 nucleotides (nt) and the marker band at 25 nt. Additional traces available in **Supplemental**
519 **Figure 1**. (**I**) Representative traces of a freshly isolated RNA sample (top), a sample freeze-thawed
520 25x on dry ice (second plot), a sample left for 4 h on the bench (third plot), and a sample treated
521 with RNase A (bottom plot). Note complete degradation of RNA upon addition of RNase A. (**J**) RT-
522 PCR gel from kits as labeled for *bru1* and *rp49*. The relative intensity of the *bru1* band normalized
523 against *rp49* is plotted below. Error bars = SEM (unpaired *t*-test, p = 0.0119).
524
525 **Figure 5: Application of IFM dissections to investigate Bruno1 function in alternative splicing.**
526 (**A**) Volcano plot of mRNA-Seq data (gene unit) from IFMs dissected at 72 h APF. Genes that are
527 significantly differentially regulated between *bru1-IR* and wildtype IFM (padj < 0.05, abs($\log_2$FC)
528 >1.5) are shown in blue, and non-significant genes in grey. Sarcomere proteins are highlighted in

529 red, and select genes are labeled. (**B**) Volcano plot of whole proteome mass spectrometry results
530 from 1 d adult IFMs. Proteins significantly different between *bru*^{M2} mutants and wildtype (FDR <
531 0.05) are shown in blue, nonsignificant proteins in grey. Sarcomeric proteins are highlighted in
532 red. Peptides corresponding to genes in (A) are labeled in red. Sets of peptides mapping to
533 different isoforms of the same protein are labeled in the same color. (**C**) Scheme of the C-
534 terminus of *Mhc* illustrating distinct transcript isoforms and insertion location of the *weeP26*
535 gene trap (see **Supplemental Methods** for insertion point). RT-PCR primers are denoted as black
536 lines above transcripts. Read counts per kilobase per million bases (RPKM) from mRNA-Seq are
537 shown for IFMs dissected from wildtype at 30 h APF (orange) and 72 h APF (red), from *bru1-IR*
538 (blue) and *salm*$^{-/-}$ (cyan) at 72 h APF and from whole leg (green) at 72 h APF. (**D**) RT-PCR with
539 primers against *Mhc* showing the isoform switch in IFM between 30 h APF and later timepoints.
540 The Exon 34-35 splice event is only weakly observed in *bru*^{M3} mutant IFM or in the adult leg. (**E**)
541 Confocal images of *weeP26* GFP localization in wildtype IFM sarcomeres at 48 h APF and 90 h APF
542 compared to 90 h APF leg muscle. Scale bars = 1 µm. (**F**) Splice junction quantification from
543 mRNA-Seq data for genotypes and timepoints as labeled. Junction reads are presented as the
544 ratio of a specific splice event (Exon 34 to 35 in grey, 34 to 36 in purple, and 34 to 37 in green) to
545 the total number events sharing the exon 34 splice donor.
546
547 **Supplemental Figure 1.** (**A,B,C**) RNA yields from samples of the same genotype dissected by the
548 same researcher in the same week. After all samples were dissected, RNA was isolated and
549 measured the same day. (A) Nanograms (ng) of total RNA obtained from IFM dissections per 1 d
550 adult fly. Error bars = SEM. (B) Total RNA obtained from dissected IFM per fly at 30 h APF, 48 h
551 APF, 72 h APF and 1 d adult. (C) Total RNA isolated from IFM dissected from 50 1 d adult flies
552 using different extraction methods. (**D**) Total RNA concentrations per fly from dissected legs,
553 jump muscle (TDT) and IFM. More RNA is obtained from the larger IFMs. Error bars = SD. (**E**) Total
554 RNA concentrations per fly of IFM dissected from controls compared to RNAi or mutant samples
555 at 30 h APF, 72 h APF and 1 d adult. For mutants, w^{1118} was used as wildtype control. Mutant data
556 are compiled from *bru1-IR*, *salm*$^{-/-}$ and another RNA-binding protein mutant. Note that for these
557 manipulations, RNA yields are decreased in 1 d adult due to muscle atrophy and loss, so more
558 flies need to be dissected to obtain sufficient quantities for omics approaches. Errors bars = SD.
559 (**F**) Additional traces showing RNA integrity for the RNA isolation methods shown in **Figure 4G**
560 and in **Supplemental Figure 1C**.
561
562 **Supplemental Methods:** A detailed description of the methods and reagents used throughout
563 the text and, in particular, to generate the data shown in **Figure 1A-D**, **Figure 4F-K, Figure 5,**
564 **Supplemental Table 1**, and **Supplementary Table 2**. These data motivate the dissection protocol
565 and demonstrate its utility for RNA isolation, mRNA-Seq, RT-PCR, and proteomics.
566
567 **Supplemental Table 1: Table of 72 h APF mRNA-Seq data for sarcomere proteins identifying**
568 **differentially expressed genes (via DESeq2) and exons (via DEXSeq) in *bru1-IR vs*. wildtype**
569 **IFMs.**
570
571 **Supplemental Table 2: Table of whole proteome mass-spectrometry data from 1 d adult**
572 **identifying differentially expressed proteins and protein isoforms in *bru*^{M2} mutant *vs*. wildtype**

573 **IFMs.**
574
575 **DISCUSSION:**
576 In this protocol, we present the basic technique to dissect *Drosophila* IFMs from early and late-
577 stage pupae for downstream isolation of protein, DNA, RNA or other macromolecules. The
578 protocol can be easily adapted to dissect IFM from adult flies. We demonstrate the utility of our
579 dissection protocol for mRNA-Seq, proteomics and RT-PCR applications. With the continuous
580 improvement of omics technologies to allow analysis of samples with less starting material and
581 lower input concentrations, these dissections will likely become valuable for many additional
582 applications. As IFMs are an established model for human myopathies[4,24] and muscle-type
583 specific development[9,12], we envision, for example, IFM-enriched metabolomics, investigations
584 of chromatin conformation via 3C or 4C, splicing network evaluation via CLiP interactions or
585 phospho-proteomics of myofibrillogenesis.
586
587 It is important to consider that these dissections produce a sample enriched for IFM instead of a
588 pure IFM sample. This is unavoidable due to motor neuron innervation, tendon attachments and
589 tracheal invasion of muscle fibers. Bioinformatics analysis can be used to identify IFM enriched
590 genes or proteins, but further experiments are required to demonstrate that they are in fact IFM-
591 specific. Sample purity can be assayed using published tissue-specific markers such as Stripe[45]
592 (tendon), Act79B[4,44] (tubular muscle), Act88F[15] (IFM), or syb[46] (neuronal specific). It may be
593 possible to use such markers to normalize datasets to the IFM-specific content, but users are
594 cautioned that temporal changes in expression of genes used for normalization, for example of
595 IFM-specific genes or tubulin, may bias such an approach.
596
597 Genetically encoded tissue-specific labeling methods, for example EC-tagging[47,48] or PABP-
598 labeling[49,50] for isolating RNA have been developed in recent years, which may help obtain a truly
599 tissue-specific RNA sample. However, EC-tagging requires constant feeding of flies[47] and thus is
600 not applicable during pupal stages. The sensitivity and completeness of PABP-labeled
601 transcriptomes may have limitations[51]. FACS approaches to isolate individual muscle fibers are
602 complicated by the large size and syncytial nature of IFMs. INTACT[52,53] style approaches may be
603 applied to isolate specific subcellular-compartments from IFMs, which may prove useful for
604 isolating pure populations of IFM nuclei or mitochondria. Manual dissections are still the current
605 standard to obtain intact IFM tissue for most downstream applications.
606
607 Sample quality depends on several critical steps in the dissection process. The dissections are
608 technically demanding, with dissection speed and sample purity increasing with experience.
609 Dissecting for short periods of time (20–30 min) in chilled buffer without detergent and
610 immediately freezing helps to preserve sample integrity, as has been observed previously for
611 mouse tendon isolation[54]. IFMs can be successfully dry-frozen after removing all buffer from the
612 pellet, but specifically for RNA isolation, freezing samples in isolation buffer tends to produce
613 better results. IFMs from up to 20 separate dissections are combined prior to RNA or protein
614 isolation, allowing scaling up and collecting enough material, even from early timepoints or
615 mutants[16,32], for downstream analysis.
616

617 For RNA applications, the most critical step may be the isolation of the RNA itself. Guanidinium
618 thiocyanate-phenol-chloroform isolation (method 1 above) outperforms most commercial kits
619 tested and, as previously noted, is considerably less expensive[55]. The variability observed in RNA
620 isolation yields with commercial kits is in agreement with previous observations[56,57]. We further
621 add glycogen during isopropanol precipitation to help recover all RNA. Beyond RNA yield, it is
622 important to verify RNA integrity to ensure that the sample has not been fragmented or degraded
623 during the dissection and isolation processes. It is also essential to work RNase-free. Lastly, the
624 choice of RT-kit can impact the sensitivity of the reverse transcription process. While not often
625 discussed in detail, all of these points influence the quality of the IFM sample and the data
626 obtained from downstream applications.
627
628 Several important modifications set the protocol apart from existing IFM dissection protocols.
629 Although a detailed dissection protocol for IFM immunofluorescence exists[19], this protocol
630 presents a different approach to pupal dissections that allows more rapid isolation of IFM tissue.
631 This allows collection of large amounts of IFM tissue (relatively speaking) with limited dissection
632 times to prevent proteome or transcriptome changes. Other protocols describe dissection of
633 adult IFM for visualizing GFP staining in individual myofibrils[39] or for staining of larval body-wall
634 muscles[58], but they do not address dissection at pupal stages or for isolation of RNA or protein.
635 This approach is also distinct from the existing protocol for microdissection of pupal IFMs from
636 cryosections[38], which may generate a purer IFM sample but is more labor intensive and produces
637 less material. As compared to other rapid adult IFM dissection protocols[38,39], IFMs are isolated in
638 PBS buffer without detergent to limit stress induction and other major expression changes.
639
640 The key advance in this protocol is the inclusion of a live, fluorescent reporter, allowing isolation
641 of the IFMs at early pupal stages. We standardly use *Mef2*-GAL4[59] driving either *UAS*-CD8::GFP
642 or *UAS*-GFP::Gma[60]. This allows differential labelling of IFM (flight muscles are more strongly
643 labeled and differently shaped than other pupal muscles) as well as performance of GAL4-UAS-
644 based manipulations, for instance rescue or RNAi experiments. It is also possible to combine
645 *Mef2-GAL4* with *tub*-GAL80^{ts} to avoid RNAi-associated early lethality or with UAS-Dcr2 to
646 increase RNAi efficiency[40].
647
648 There are additional GAL4 drivers or GFP-lines available that vary in muscle-type specificity,
649 temporal expression pattern, and driver strength[19,61] that may be used instead of *Mef2*-GAL4.
650 For example, *Act88F*-GAL4 is first expressed around 24 h APF, so it cannot be used for earlier
651 timepoints; however, it strongly labels IFM and may be useful to avoid RNAi-associated early
652 lethality. *Him*-GFP or *Act88F*-GFP label IFM, again with temporal restrictions, but they avoid GAL4
653 dependence of marker expression and may be useful in combination with a mutant background
654 of interest. Lists of other possible marker lines[19]. It should also be noted that use of transgenes
655 and the GAL4/UAS system may cause gene expression artifacts, so it is important to use
656 appropriate controls, for example the driver line crossed to the wild-type background strain, so
657 that such artifacts are presumably the same in all samples.
658
659 With the accompanying video, this detailed protocol aims to make pupal IFM dissection more
660 accessible and promote the use of omics approaches to study muscle development. Coupling the

power of *Drosophila* genetics and cell biology with the biochemistry and omics assays accessible through dissected IFM has the potential to advance mechanistic understanding of myogenesis and muscle function. Future studies linking systems-level observations of transcriptome and proteome regulation to metabolic and functional outputs will provide a deeper understanding of muscle-type specific development and the pathogenesis of muscle disorders.

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The authors have nothing to disclose.

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843

Figure 1

Kao et . al. Figure 1

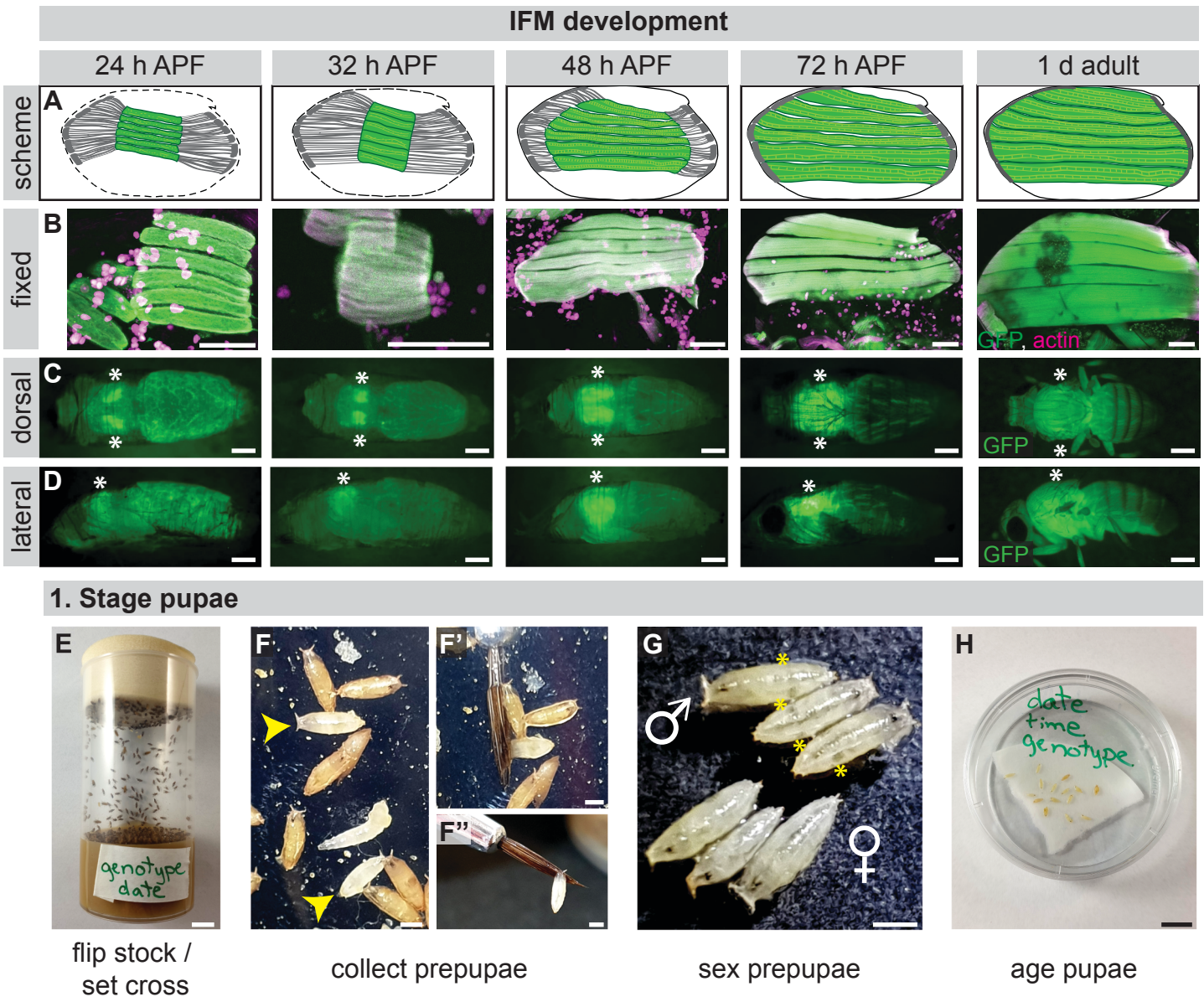
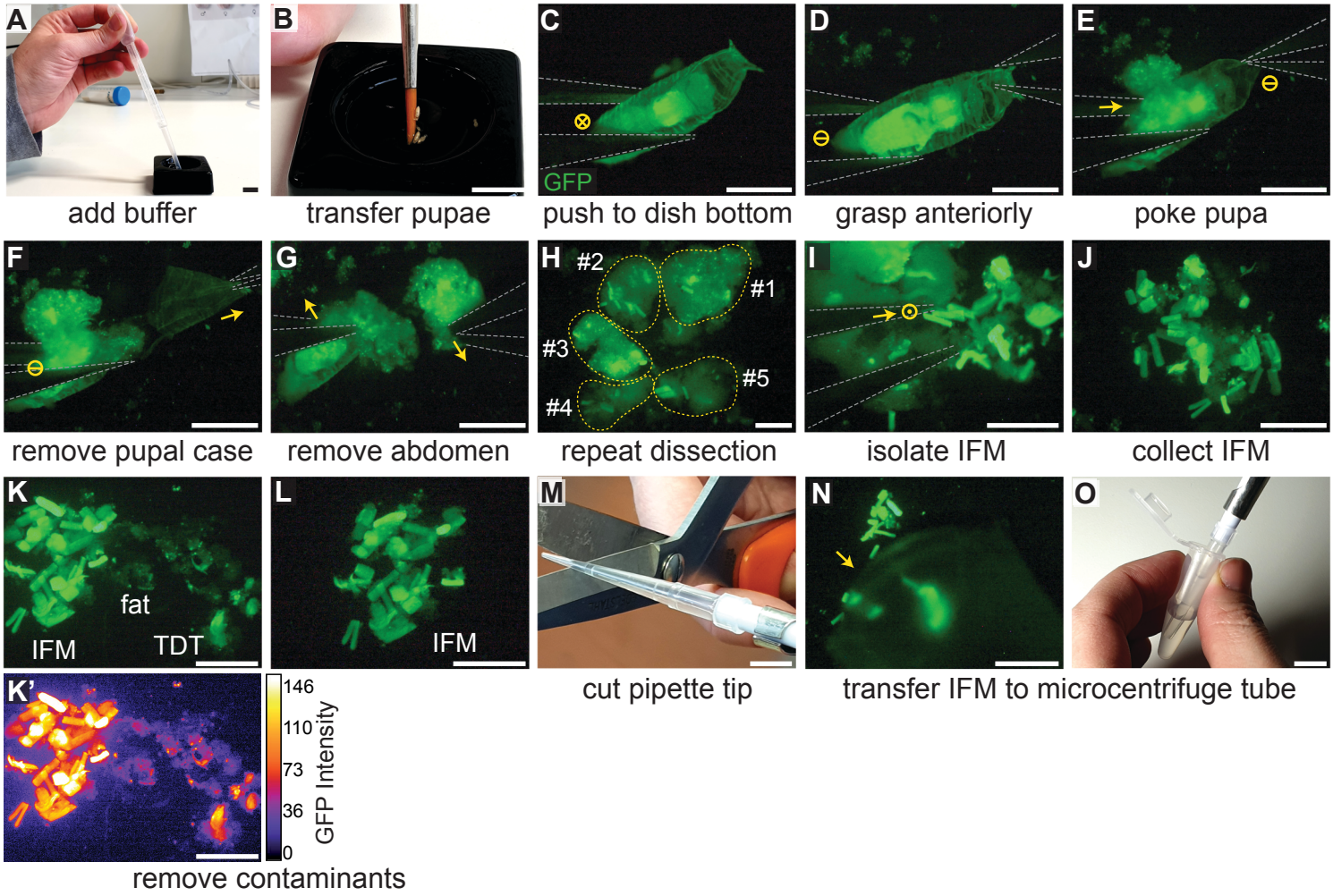
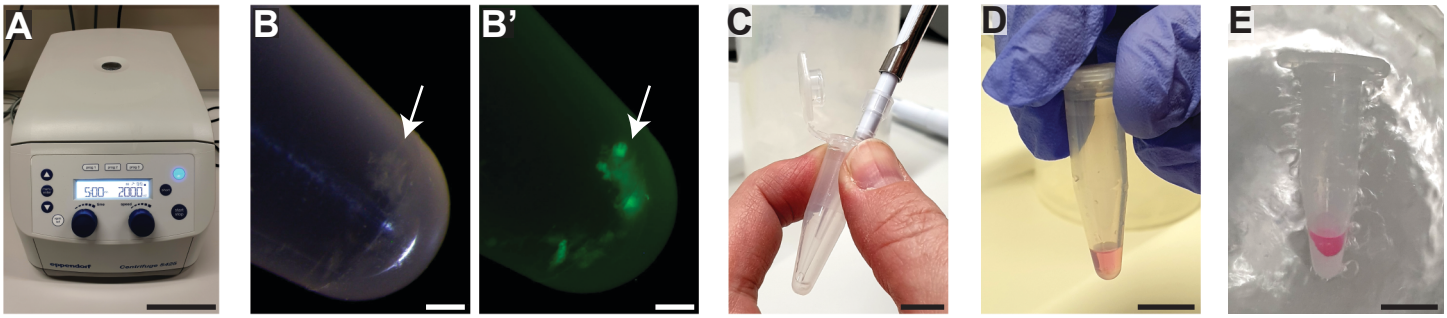


Figure 2
Kao et al, Figure 2

2. IFM dissection before 48 h APF

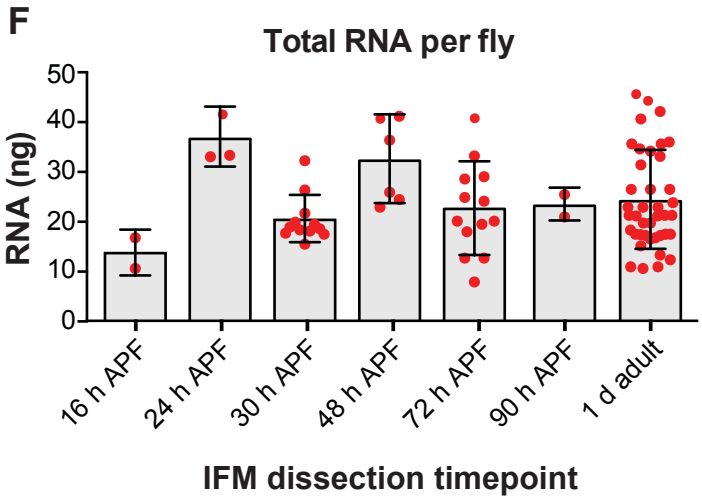


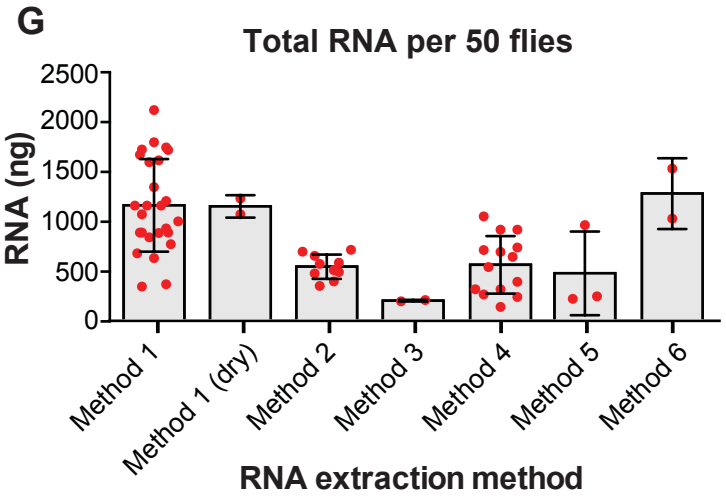
4. Pellet and preserve the IFM sample

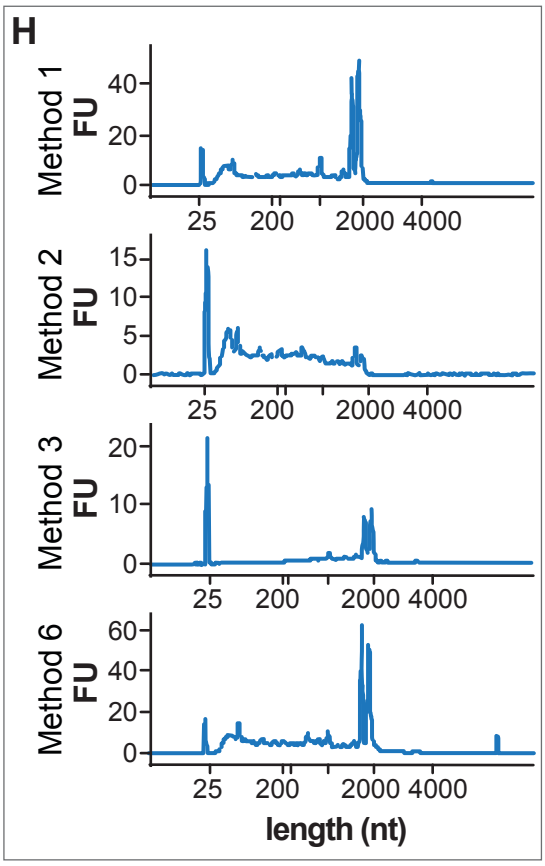


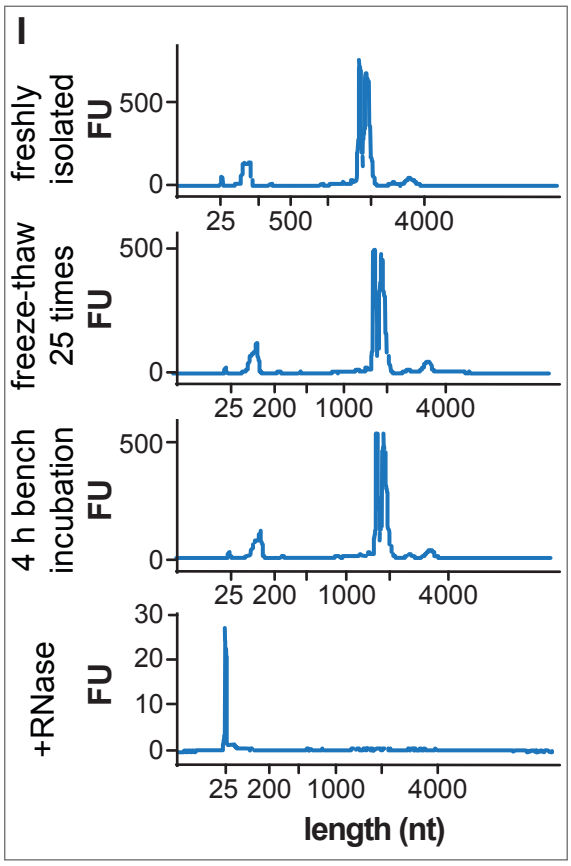
pellet sample by centrifugation | remove buffer | resuspend | freeze down

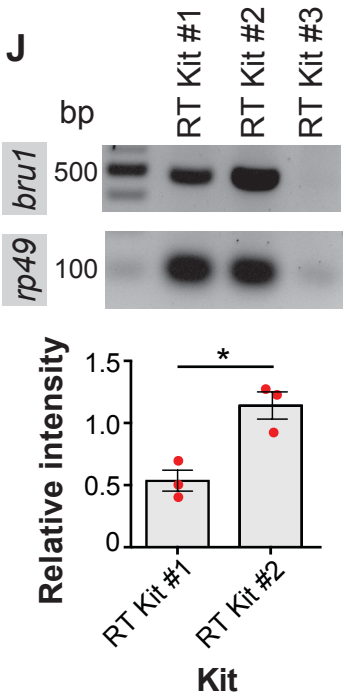
Details on RNA isolation











Kao et al, Figure 5

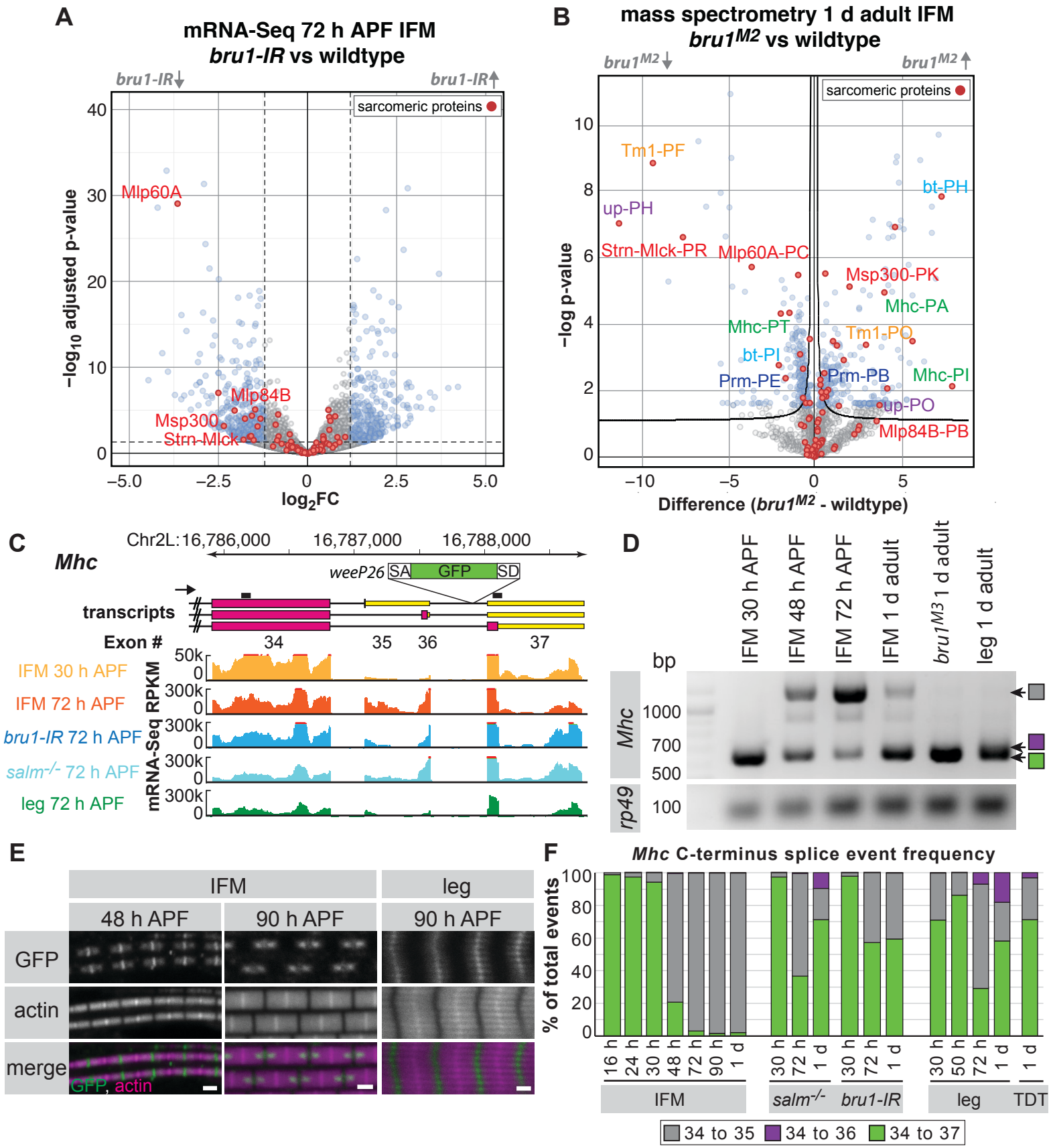


Figure 3

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Video or Animated Figure

Kao et al Figure 3.revised.raster.svg

Name of Material/Equipment
5x High Fidelity (HF) buffer
60 mm culture dishes
black dissecting dish (glass)
black silicon dissecting dishes: activated charcoal powder
black silicon dissecting dishes: Sylgard 184
blue pestle
cell phone camera, Samsung Galaxy S9
chloroform
confocal microscope, Leica SP8X upright confocal
confocal microscope, Zeiss LSM 780 inverted confocal
double stick tape
Dumont #5 Forceps
EtOH (100%, RNase free)
fluorescent dissecting microscope camera, Leica DFC310 FX camera
fluorescent dissecting microscope software, Leica Application Suite (LAS) version 4.0.0
fluorescent dissecting microscope, Leica M165 FC
Fly: *Bru1[M2]*
Fly: *Bru1[M3]*
Fly: *Mef2-GAL4*
Fly: *salm[1]*
Fly: *salm[FRT*]
Fly: *UAS-Bru1IR*
Fly: *UAS-GFP::Gma*
Fly: *UAS -mCD8a::GFP*
Fly: w[1118]
Fly: *weeP26*
GFP detection reagent, GFP-Booster
glycogen
image processing software, Photoshop CS6
isopropanol
Method 1 (RNA isolation): TRIzol
Method 2 (RNA isolation): Method 1 + TURBO DNA-free Kit
Method 3 (RNA isolation): Direct-zol RNA Miniprep Plus Kit
Method 4 (RNA isolation): RNeasy Plus Mini Kit
Method 5 (RNA isolation): ReliaPrep RNA Tissue Miniprep System
Method 6 (RNA isolation): Monarch Total RNA Miniprep Kit
Microcentrifuge tubes
Microscope slides
microtome blades
Monarch DNase I

Monarch DNase I Reaction Buffer
normal goat serum
OneTaq Polymerase
Paintbrush
Paraformaldehyde
PBS buffer (1x)
PFA PureTip Pipette Tips
Phusion High Fidelity Polymerase
Pipette tips
Preomics iST 8x Kit
Q Exactive mass spectrometer
Qubit RNA Assay Kit
rhodamine-phalloidin
RNA concentration Approach 1 & RNA integrity traces, Bioanalyzer
RNA concentration Approach 2, Nanodrop
RNA concentration Approach 3, Qubit 4 Fluorometer
RNA Pico Chips
RNase A
RNase-free water, Diethyl pyrocarbonate (DEPC)
RT Kit #1: Super Script III Reverse Transcriptase Kit
RT Kit #2: LunaScript
RT Kit #3: QuantiNova Reverse Transcription Kit
slide mounting buffer, Vectashield
statistical software: GraphPad Prism
statistical software: Microscoft Excel
Table-top centrifuge
tissue/ Kimwipes
Transfer pipette
Triton-X100
Vannas spring scissors
Whatman paper

Company	Catalog Number
Thermo Fisher	F518L
Sigma-Aldrich	Z643084-600EA
Augusta Laborbedarf	42021010
Sigma-Aldrich	C9157
Sigma-Aldrich	761036
Sigma-Aldrich	Z359947-100EA
Samsung	SM-G960F/DS
PanReac AppliChem	A3691,0500
Leica	
Zeiss	
Scotch/3M	3M ID 70005108587
Fine Science Tools	11252-20
Sigma-Aldrich	32205-M
Leica	
Leica	
Leica	
Bloomington Stock Center	BDSC:27390
Bloomington Stock Center	3274
Vienna Drosophila Research Center	GD41568
Bloomington Stock Center	BDSC:31776
Bloomington Stock Center	BDSC:5130
Bloomington Stock Center	3605
ChromoTek	gba488-100
Invitrogen	10814-010
Adobe	
Sigma-Aldrich	I9516-25ML
Life Technologies	15596018
Invitrogen	AM1907
Zymo Research	R2070S
Qiagen	74134
Promega	Z6110
New England Biolabs	T2010G
Thermo Fisher	AM12400
Thermo Fisher	12342108
PFM Medical	207500003
New England Biolabs	T2004-21

New England Biolabs	T2005-21
Thermo Fisher	16210072
New England Biolabs	M0480X
Marabu	1910000000
Sigma-Aldrich	158127
Sigma-Aldrich	P4417
Elemental Scientific	ES-7000-0101
Thermo Fisher	F-530XL
Sigma-Aldrich	P5161
Preomics	P.O.00001
Thermo Fisher	725500
Life Technologies	Q32855
Invitrogen, Molecular Probes	10063052
Agilent Technologies	G2939BA
Thermo Fisher	ND-2000
Invitrogen	Q33238
Agilent Technologies	5067-1513
Promega	A7937
Sigma-Aldrich	D5758
Invitrogen	18080-044
New England Biolabs	E3010S
Qiagen	205410
Vector Laboratories	H-1200
GraphPad Prism	
Microsoft	
Eppendorf	5405000760
Sigma-Aldrich	Z188956
Sigma-Aldrich	Z350796
Sigma-Aldrich	T9284-500ML
Fine Science Tools	15000-00
Sigma-Aldrich	1004-070

Comments/Description
Greiner dishes, 60 mm x 15 mM, vented
Lymphbecken, black glass, 4x4 cm
Also available from most pharmacies
Dishes are made by mixing the Sylgard (~50g) with activated charcoal powder (200 mg) and curing it in Petri dishes (~4 60 mm dishes).
Any pellet pestle that can sterilized, also can be used with a motor-driven grinder
used for photos not taken under a microscope
www.leica-microsystems.com
www.zeiss.com
Double-sided tape, available at most office supply handlers
Inox straight tip 11 cm forceps, Biology grade with 0.05 x 0.02 mm tip
www.leica-microsystems.com
www.leica-microsystems.com
www.leica-microsystems.com
Fly stock; This paper
Fly stock; This paper
Fly stock
Fly stock
Fly stock; see Spletter *et al* ., *Elife* , 2018
Fly stock, RNAi hairpin
Fly stock
Fly stock
Fly stock
Fly stock; see Clyne *et al., Genetics,* 2003
www.adobe.com
2-propanol
Guanidinium isothiocyanate and phenol monophasic solution
TRIzol isolation followed by treatment with a kit to remove DNA
RNA isolation in TRIzol, but over commercial columns instead of using phase separation. Recommended DNase treatment performed with Monarch Dnase I in Monarch DNase I Reaction buffer.
We used the provided DNase treatment. IFM pellets were homogenized in RTL buffer as suggested for animal tissues.
We applied the protocol for 'Purification of RNA from Fibrous Tissues'.
We applied the protocol for tissues/leukocytes and lysed in 300 µL of RNA Protection Reagent.
RNase-free Microfuge Tubes, 1.5 mL
Standard slides, uncharged, 1 mm
C35 feather 80mm

Marabu Fino Round No. 0, or similar brush from any art supply
Phosphate buffered saline tablets for 1 L solutions, pH 7.4
Optional substitute for standard pipette tips to reduce sample loss; 100 μL, 0.8 mm orifice
Universal 200 μL pipette tips
peptide preparation kit for mass spectrometry
mass spectrometry was performed at the Protein Analysis Unit of the LMU Biomedical Center
DEPC treat water overnight and then autoclave, to remove all RNase.
reverse transcription kit
reverse transcription kit
reverse transcription kit
containing DAPI
www.graphpad.com
Purchased as part of the bundle: Office Home & Student 2019
Eppendorf Centrifuge 5425 or equivalent
Standard tissue wipes
Plastic pipette
3 mm cutting edge, tip diameter 0.05 mm, length 8 cm
Filter paper circles, Grade 4, 70 mm

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Signature:	Date: May 23, 2019

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Response to Reviewers

We wish to thank all of the reviewers and editors for their insightful comments that have helped improve our protocol and manuscript. Please find a point-by-point response to individual comments below, as well as the page and line references to the adjustments we made in the text.

Editorial comments:
1. Please take this opportunity to thoroughly proofread the manuscript to ensure that there are no spelling or grammar issues. The JoVE editor will not copy-edit your manuscript and any errors in the submitted revision may be present in the published version.
We have proof read and attempted to correct grammar and spelling errors throughout the manuscript.
2. JoVE cannot publish manuscripts containing commercial language. This includes trademark symbols (™), registered symbols (®), and company names before an instrument or reagent. Please remove all commercial language from your manuscript and use generic terms instead. All commercial products should be sufficiently referenced in the Table of Materials. You may use the generic term followed by "(Table of Materials)" to draw the readers' attention to specific commercial names. Examples of commercial sounding language in your manuscript are: Whatman, TRIzol, Kim wipe, etc.
Thank you for the clarification. Please see the changes throughout the text.
3. Please revise the Protocol text to avoid the use of personal pronouns (e.g., I, you, your, we, our) or colloquial phrases.
Personal pronouns and colloquial phrases have been removed from the protocol.
4. 2.10: Please describe how to remove non-IFM muscles, fat, cuticle, etc.
Please see the updated description on Page 4, Section 2.10.
5. Figures: Please include a scale bar, ideally at the lower right corner, for all microscopic images to provide context to the magnification used. Define the scale in the appropriate figure Legend.
Scale bars have been added to all image panels, and defined in the corresponding legends.
6. Figure 4: Please remove commercial language (Trizol, Promega, NEB Monarch, Zymo, Invitrogen, Direct-zol, etc.)" and replace them with generic terms if necessary.
Commercial language has been replaced with generic terms.
7. Figure 4 and Figure 5: Please include a space between numbers and their corresponding units (30 h, 48 h, 72 h, etc.).
Figure text has been updated.
8. Please remove the embedded Table of Materials from the manuscript.
The Table of Materials has been removed from the manuscript.

Reviewers' comments:
Reviewer #1:
Manuscript Summary:
In the manuscript entitled: "Dissection of Drosophila melanogaster flight muscles for -omics approaches", Kao et al. describe an optimized method of dissecting Drosophila indirect flight muscles (IFM) throughout development that is suitable for transcriptomics and proteomics approaches. Their method, like other dissecting protocols, is based on the careful dissection of muscle fibers. As dissecting these muscles is tedious, the authors describe the use of a muscle-specific GFP to label the muscles and help the dissection process. The GFP labeling is particularly important for the early stages of development when the IFM are hard to distinguish (<40h). The authors clearly describe all the steps required for the dissection and comment on specific details that are important at different developmental time points. All the steps listed in the procedure are well explained in the text and in the figures and the materials and equipment needed are listed in the table of materials. Additionally, the authors use their protocol to investigate the role of Bruno in alternative splicing. The results section reads well and provides a perfect example of the use of the dissection protocol.
I am sure the provided manuscript will be a nice addition to JoVE and a helpful resource for the Drosophila research community.
We appreciate the positive evaluation and recommendation!

However, I have some comments that might help the authors improve their protocol.
1) The dissection part of the protocol is surely highly variable depending on the skill of the person dissecting and the developmental stage of the IFM. It is possible that samples from earlier time points are less enriched for IFM tissue than samples from later time points. The authors could provide a way of normalizing the final data to the relative amount of IFM tissue in the sample. For example, estimating the IFM purity by comparing a known IFM-specific gene to tubulin. This will make comparisons between time points more robust and help when comparing data obtained by different people.
This is an excellent idea that we have often considered implementing ourselves. The tricky part is actually selecting genes to use for the normalization. We typically analyze our data in the context of the timecourse, and tubulin itself changes expression levels as IFM develops (see Spletter *et al*., *Elife*, 2018 or Sarov *et al*., *Elife*, 2016). We can confirm this at the level of RT-PCR and protein reporter expression, suggesting the developmental changes in expression are real. There is also up and down regulation of most every other gene we have examined as a possible normalization candidate (ribosomal proteins, mitochondrial proteins,

cytoskeletal proteins, chromatin regulation and transcriptional machinery). Arguably, such wide-reaching expression changes are expected when analyzing timepoints from the stem cell-like myoblast state, or even a newly-specified flight muscle at 16-24 h APF, all of the way through the fully differentiated tissue. Further, the majority of IFM-specific genes are either first upregulated between 30-72 h APF (*i.e.* Fln, Strn-Mlck IsoR) or are dramatically upregulated after 48 h APF (*i.e.* Act88F). Both cases provide a challenge to normalization and not creating artifactual expression levels when comparing across timepoints. Thus, we have no established protocol to normalize the data as the reviewer suggests. We added a comment in the text to suggest this may be an option when analyzing a given timepoint (Page 12).

2) The authors label the muscles using GFP expressed under the Mef2 promoter (Mef2-Gal4, UAS-GFP). While useful to study the function of Bruno, this approach is limited to study genes that are not lethal upon depletion in all muscles. Depletion of most genes is lethal before the pupal stages. The authors should comment on the use of other Gal4 lines. Maybe other Gal4 lines are not well suited for labeling the IFM at earlier stages, the authors should comment on this matter. Alternatively, they may just explain why they chose to use Mef2 instead of other IFM-specific driver lines.
We use Mef2-Gal4 as it labels IFM differentially at all timepoints we are interested in studying and we can use the same genotype for all of our samples. Using Gal80^{ts}, it is possible to avoid embryonic/larval lethality associated with knock-down of most genes, and indeed it is possible to use other drivers (1151-Gal4, Him-Gal4, Salm-Gal4, Act88F-Gal4 or Fln-Gal4) depending on the timepoint to be addressed in the user's experiment. We made a short comment on Gal4 line choice in the discussion of the original submission (Page 12), and we have expanded on this to make Gal4 selection clearer and to address the reviewer's comment (Page 13).

3) Detergents such as Triton-X are typically used to avoid the stickiness of samples to the forceps or the pipette tips. The authors clearly state that they use PBS without Triton-X. Is there a reason for this?
Triton-X is a detergent and compromises membrane stability. We use PBS without Triton-X to keep the muscles alive longer and limit RNA degradation associated with muscle cell death. We observed that we obtained better RNA samples without Trixon-X in the dissection buffer early on when establishing the dissections, and did not re-test this when repeating the dissections for the plots shown in Figure 4 of this protocol. We have added a comment about this in the Supplementary Materials and Methods (under RNA isolation).

Reviewer #2:
Manuscript Summary:
The authors present a detailed protocol for isolation of fluorescente labeled indirect flight muscles of Drosophila, from early stages of development to adults, to generate samples suitable for omic. analyses such as RNAseq and proteomics. They provide a comparison of how different extraction techniques of total RNA may affect the performance. Finally, they show a nice example of the protocol in action. Of note, is that their protocol allow to extract enough amount of material to perform RNAseq and mass spec analyses in a short period of time avoiding changes in gene expression or cell death due to exposure to non-physiological conditions.

Major Concerns:
There are no major concerns regarding the article.

Minor Concerns:
I listed below some suggestions that may improve the article.

Line 163, Figure 2: Could it be possible to do this in a regular dissecting dish using a black background in the dissecting microscope? Maybe the authors could comment about this. I find difficult to get black dissecting dishes, at least in my country it will take some time.
Thank you, this is a good point. The dissections should be possible in any type of watch glass or transparent dissection dish with a black background. There tends to be a bit more diffuse fluorescence in these cases, which is why we prefer the black dishes. It is also possible to dissect on the black silicon dishes commonly used in the fly community, although the tissue does not stay as nicely in place as on a curved surface. We have added a comment on this in the text (Page 4) and discussed other options in the Supplemental Methods (first paragraph under RNA isolation).

Line 182 184, Figure 2: It is difficult to identify where are the forceps in the figures F and G. Maybe if the authors use doted or dashed lines instead of asterisks to highlight the forceps tips would be easier to follow through the procedure.
We have updated the figure panels to reflect the reviewer's suggestion (Figure 2 &3).

Line 193-196, Figure 2: Authors should indicate how to remove the debris or the remaining tissue, maybe with the pipette?
We remove debris by simply pushing it out of the field of view with the forceps. Please see the updated text (Page 4).

Line 199: It is not clear the difference in fluorescence intensity between TDT and IFM, maybe the authors could

use a picture that shows this difference.
We have included an image with the GFP signal colored in the Fire LUT to reflect the GFP intensity between TDT and IFM in both Figure 2 and 3.

Line 222: In my experience it helps to transfer the pupae first in to a Whatman paper or tissue paper to dry them out and then transfer to the strip of double-stick tape
If the pupa are too wet, we do the same thing. We generally try to not oversaturate the Whatman paper, and then the pupae dry quickly and stick to the tape without have to take the time to blot the pupae dry. We added a comment on this (Page 5).

Reviewer #3:
Manuscript Summary:
The manuscript by Kao et al. provides a clear and complete guide for how to isolate indirect flight muscle from different pupal stages during Drosophila metamorphosis. They also describe in detail how to process the muscles for RNAseq and (although much less detailed) for proteomics. Finally, they provide examples of RNAseq and proteomic analyses with regard to temporal changes and alterations in the mutant backgrounds for the transcription regulator Spalt and the splicing regulator Bruno, which is downstream of Spalt.
The manuscript is well-written and the figures make the points to be illustrated quite clear. Thus, the manuscript makes a valuable contribution to the field. A few, often minor points for improvements and corrections are listed below in the order of occurrence in the text.
We appreciate the positive evaluation and the suggestions to improve the manuscript.

Minor concerns and corrections:
1. Line 85: "Drosophila IS a useful model…"
Fixed.

2. Lines 193-194: Describe how to grab the muscles without destroying them.
Please see the updated description on how to grab the muscles (Note following 2.9, Page 4).

3. Lines 243-246: Do you cut the head in both cases?
No. In most cases we remove the head from adult, but not from pupae. The reason for this is that the head on adults interferes with cutting the thorax in half, because it is free to move around, while the pupal head is held in place by the pupal cuticle. We updated the text to reflect this difference (3.6: Page 6).

4. Line 332: use "recoveries" instead of "concentrations"
Thank you for the terminology correction (Page 8).
Were the different commercial products used multiple times with similar results for 4I and 4K? (in K it says for NEB "consistently", in M&M: "2 biological duplicates". Was each duplicate tested only once and how big were the variations?)
To help clarify this, we have created Supplemental Figure 1 and generated new panels for Figure 4 that are a compilation of many RNA isolations we have done over the past 9 years. Figure 4F and G now give a clearer picture of how many samples were isolated at each timepoint and with each kit, and the variability in these isolations. We have also added a second Bioanalyzer plot in Supplemental Figure 1 for each of the RNA isolation methods. We removed the word “consistently” from the text.

Specifically for this manuscript, we repeated experiments that we have performed previously in a controlled fashion (ie the same genotype, the same number of flies per dissection, the same person dissecting). This was in the original Figure 4F-G, and is now in Supplemental Figure 1 A-C. We did 2 biological replicates for each RNA isolation method we tested. We have also clarified in the Methods how we measured the RNA concentrations for each biological replicate. Qubit values are reported in the Supplemental Figure 1 A-C.

5. Supplementary table 1: The table needs explanations/descriptions, e.g., in a separate rider in Excel. Among others it should be explained which genes were selected (only sarcomeric protein genes as for proteomics or all genes above a given cut-off? What are the yellow-marked genes?).
A new tab has been added in Supplemental Table 1 explaining what the data is. We additionally supply the list of sarcomere genes we used for our analysis. These tables show only sarcomere genes from the DESeq2 and DEXSeq analysis of the mRNA-Seq data comparing wildtype to *Bru1-IR*. The yellow marked genes are those that fall above or below our log2FC threshold of 1.5, that are colored red in the plot in Figure 5A.

6. Supplementary table 2: As for suppl. table 1, explanations/descriptions are needed, including the information now in M&M: "Sarcomere proteins were identified using a previously compiled list[10]." Isoforms should be denoted in bru vs. wt lists as in Fig. 5B for the proteins where this information is available.
We have expanded the descriptions and adjusted the table as requested by the reviewer. The list of sarcomere genes/proteins is available in one of the tabs in Supplemental Table 1, as we used the same list to identify sarcomere genes in the mRNA-Seq data.

7. Lines 385-404, Fig. 5: This information is being presented in a very condensed manner and is therefore not as clear as it could be.
Examples: Lines 389-391: "This isoform switch does not occur in leg muscle, leading to uniform GFP incorporation across the sarcomere, while 2 "dots" associated with M-line are observed in IFM sarcomeres (Figure5C,D,E)." The relationship between the number of dots and the specific isoforms is not clear to me. Omit these imaging data? Line 393: "only the Exon 34-37 event results in GFP expression". If this is taken literally, GFP would be spliced out. Perhaps use "Exon 34-GFP event" instead. Line 398: data for tubular leg and jump muscles are shown, but this Methods paper does not cover the isolation of these muscles (only how to get rid of them).
Please see the expanded discussion and clarifications in this section of the text (Pages 9-10).

We have better explained the relationship between isoforms and the 2 dots (as an unlabeled Mhc isoform is incorporated at later stages of pupal development leading to 2 dots representing the early expression and incorporation of GFP labeled Mhc isoform). Actually, one expects that ALL Mhc isoforms incorporate the GFP, but it can only be translated when Exons 35 and 36 are skipped, as they contain earlier stop codons.

We find the inclusion of data from the leg and jump muscles useful in comparison to and to illustrate the utility of the IFM dissections we describe in this paper. Further, the splicing patterns observed in leg and TDT help explain the splicing patterns observed in *salm*$^{-/-}$ and *bru-IR* IFM. Without those data, we could only say the pattern is different than normal IFM and we lose the dimension of the shift towards tubular-muscle splicing patterns.

Including TDT dissection in the main protocol would be off-topic and make the text too long, from our perspective, so we have added a brief description in the Supplemental Methods of how TDT and leg are isolated.

8. Line 400: "Figure 5F" (not E)
Fixed.
8. General issue: Are there any known gene expression artifacts caused by the UAS/GAL4 used throughout? If unknown, perhaps add a note of caution in discussion, line 548.
We have not performed sequencing in *w*^{1118} compared to our normal *Mef2-Gal4, UAS-CD8-GFP* x *w*^{1118} control due to limited financial resources, and thus do not have the data to address the reviewer's question directly. When comparing a mutant (mut; *Mef2-Gal4* x mut; *UAS-CD8-GFP*) or RNAi knockdown (*Mef2-Gal4, UAS-CD8-GFP* x UAS-RNAi) to the control (*Mef2-Gal4, UAS-CD8-GFP* x *w*^{1118}), we assume expression artifacts from the Gal4/UAS to be the same in both flies and at all timepoints, so thus to cancel out in the differential expression analysis. We have added a note of caution in the discussion explaining this (Page 14).

Reviewer #4:
Manuscript Summary:
This is a very helpful protocol for the Drosophila community and will have a significant impact on the field. The paper is very clear, concise and easy to follow. I look forward to the video.
We thank the reviewer for the positive review and look forward to the video as well.

Major Concerns:
I have no major concerns.

Minor Concerns:
line 114: add commas around "for example"
Fixed (Page 2).

line 154: Please explain why the RNAi crosses should be at a higher temperature.
Please see the modified text (Page 3). Previous observations and our own experience indicate a stronger knock-down efficiency at higher temperatures.

line 187: Step 2.7 could use a little more explanation. The IFMs will come out of thorax on their own?
Please see the modified text (Step 2.7, Page 4). Yes, actually, in most cases at early time points the IFMs just come out of the thorax with a small amount of pressure. The tendon attachments are fragile and the IFMs easily detach, allowing them to be squeezed out of the thorax after removing the abdomen.

Lines 226-229: I believe this should reference Figure 3 not Figure 2.
Fixed. (Step 3.3, Page 5)

Lines 232-233: Reads as if the head is being removed from the body but the figure shows the head in later steps.
Please see the revised description for Step 3.4 and the associated note in the text. (Page 5).

Lines 319-326: I think all these RNA preps were done with IFM vs whole fly but the wording here is unclear.

Yes, these RNA preps were performed on dissected IFM. We have clarified this in the text and figure legend (Page 8).

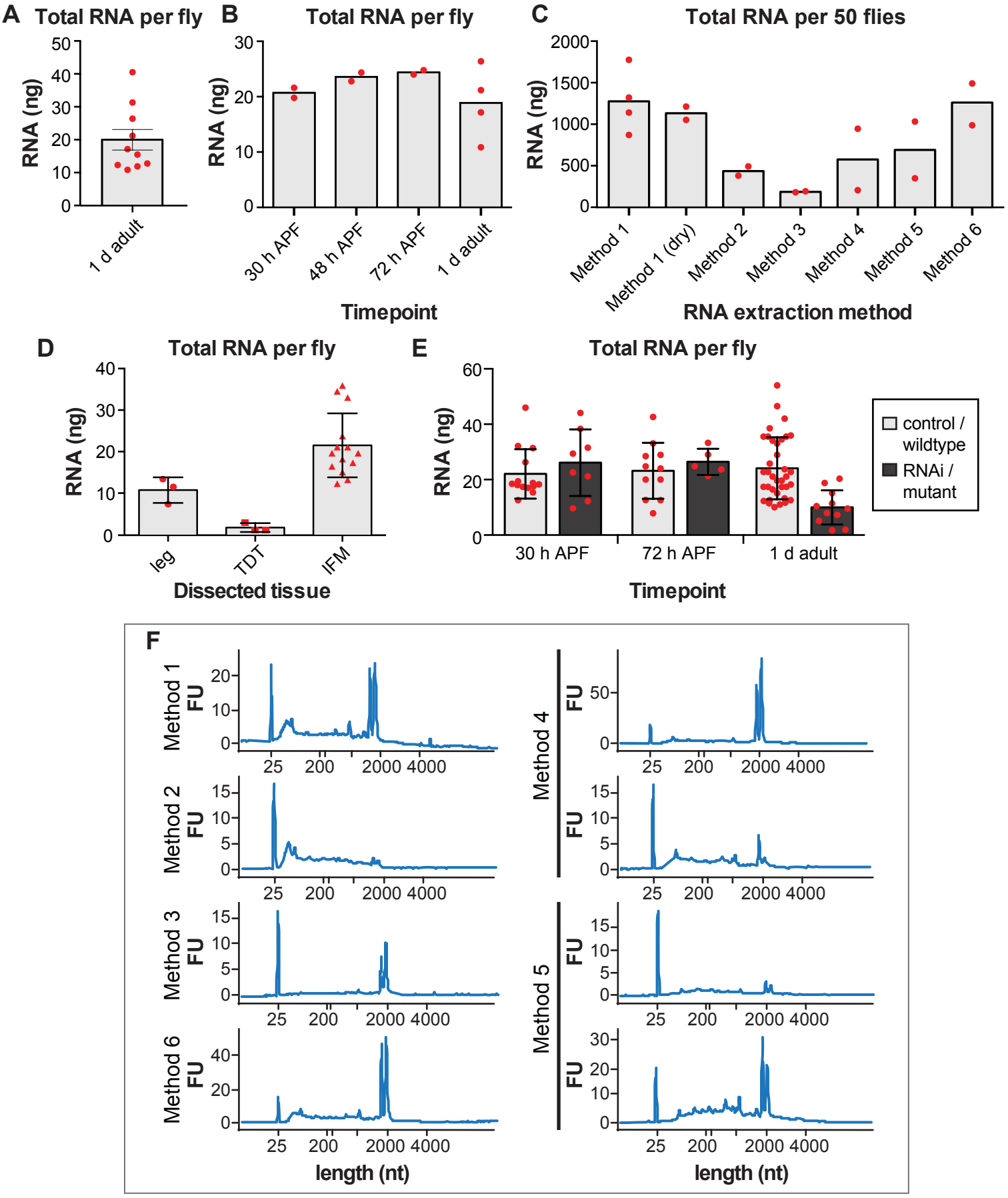
line 358: Myosin should not be capitalized
Fixed (Page 9).

Line 368: Perhaps I missed it, but did the authors give any background on what bru is prior to this point in the paper?
Bruno (Bru) was introduced in the introduction, albeit briefly. We now mention it more often in relevant locations in the introduction (Page 1, Line 67; Page 2, Line 90; Page 2, Line 117; Page 3, Lines 153-156), in addition to the description in the Results section.

line 450: what is "Quibit"?
Our apologies for the misspelling. “Quibit” is in fact the Invitrogen Qubit Fluorometer, a device that similar to Nanodrop, Bioanalyzer and Agilent Tape Station allows for measurement of RNA concentrations accurately from small samples. To address the editor comments, we have removed the commercial text from the manuscript, and more thoroughly described Qubit (also now spelled correctly) in the Supplemental Materials and Methods (Measurement of total RNA concentrations section).

The details in the section regarding Figure 5 seem very sparse.
We have greatly expanded the results section relating to Figure 5, to hopefully improve clarity and readability (Page 9-10).

Kao et al, Supplementary Figure 1



Supplementary Table 1

Related to Figure 5 and associated paragr

Tab Name
Sarcomere Proteins
SP gene units_DESeq2_72h
SP exon_DEXSeq_72h

aphs in the main text

Data Summary
List of sarcomere genes from Spletter *et al. Elife* 2018; Here we list the current FBgn and gene name.
Using data from Spletter *et al. EMBO Rep* 2015, we looked specifically at the sarcomere genes in the mRNA-Seq data at 72 h APF. This is from the DESeq2 analysis detecting differential expression on the gene unit level between control (Mef2-Gal4, UAS-GFM-Gma crossed to w1118) and Mef2-Gal4, UAS-GFM-Gma x *Bruno1-IR* . Rows highlighted in yellow are signficantly up or down regulated genes (above/below a threshold of log2FC=abs(1.5)). These data are the red dot overlay in Figure 5A. For each sarcomere gene, we provide identifier information, the log2FC from DESeq2, P value and adjusted P value, as well as DESeq2 normalized expression counts.
Using data from Spletter *et al. EMBO Rep* 2015, we looked specifically at sarcomere gene exon use in the mRNA-Seq data at 72 h APF. This is from the DEXSeq analysis detecting differential exon use between control (Mef2-Gal4, UAS-GFM-Gma crossed to w1118) and Mef2-Gal4, UAS-GFM-Gma x Bruno1-IR. Rows highlighted in yellow are signficantly up or down regulated exons (above/below a threshold of log2FC=abs(1.5)). We provide exon and gene identifier information, the log2FC from DEXSeq, P value and adjusted P value, as well as a list of associated transcripts.

Please note that many genes show regulation of one or more exons in the DEXSeq analysis, often with high log2FC values and low P value/adjust P values, while a limited list of genes shows changes at 72 h APF. This supports a strong effect of loss of Bruno on the regulation of alternative splicing.

Current_FBgn	Gene_Name
FBgn0032013	Scgalpha
FBgn0000045	Act79B
FBgn0283471	wupA
FBgn0004657	mys
FBgn0000308	chic
FBgn0263006	SERCA
FBgn0035499	Chd64
FBgn0002772	Mlc1
FBgn0043884	mask
FBgn0031692	TpnC25D
FBgn0003721	Tm1
FBgn0263391	hts
FBgn0005633	fln
FBgn0034072	Dg
FBgn0260003	Dys
FBgn0003292	rt
FBgn0027889	ball
FBgn0000711	flw
FBgn0266084	Fhos
FBgn0001250	if
FBgn0052311	zormin
FBgn0261836	Msp300
FBgn0041781	SCAR
FBgn0260442	rhea
FBgn0051374	sals
FBgn0063485	Lasp
FBgn0053519	Unc-89
FBgn0001233	Hsp83
FBgn0036044	Zasp67
FBgn0259209	Mlp60A
FBgn0260049	flr
FBgn0250788	beta-Spec
FBgn0261565	Lmpt
FBgn0086708	stv
FBgn0086906	sls
FBgn0002789	Mp20
FBgn0035917	Zasp66
FBgn0013348	TpnC41C
FBgn0265356	tn
FBgn0011570	cpb
FBgn0033739	Dyb
FBgn0086368	tw

FBgn0082582	tmod
FBgn0023083	fray
FBgn0000044	Act57B
FBgn0086442	mib2
FBgn0250789	alpha-Spec
FBgn0265045	Strn-Mlck
FBgn0262716	Arp3
FBgn0004117	Tm2
FBgn0025641	DAAM
FBgn0025391	Scgdelta
FBgn0034135	Syn2
FBgn0010812	unc-45
FBgn0052528	parvin
FBgn0028427	Ilk
FBgn0000047	Act88F
FBgn0025633	CG13366
FBgn0010424	TpnC73F
FBgn0000667	Actn
FBgn0014863	Mlp84B
FBgn0003149	Prm
FBgn0265991	Zasp52
FBgn0264695	Mhc
FBgn0033027	TpnC4
FBgn0004169	up
FBgn0002773	Mlc2
FBgn0011286	RyR
FBgn0038294	Mf
FBgn0024273	WASp
FBgn0010423	TpnC47D
FBgn0037130	Syn1
FBgn0261822	Bsg
FBgn0038042	Scgbeta
FBgn0015614	CanB2
FBgn0005666	bt
FBgn0041789	Pax

FBgn_ID	entrez	symbol	FBgn_updated	symbol_updated	log2FoldChar
FBgn0259209	37853	Mlp60A	FBgn0259209	Mlp60A	-3.6498347
FBgn0000045	40444	Act79B	FBgn0000045	Act79B	-2.5060046
FBgn0031685	NA	NA	FBgn0261836	Msp300	-2.3512828
FBgn0000044	37368	Act57B	FBgn0000044	Act57B	-2.0501494
FBgn0034056	36756	CG15699	FBgn0265045	Strn-Mlck	-1.7991035
FBgn0002789	36468	Mp20	FBgn0002789	Mp20	-1.759733
FBgn0013348	35473	TpnC41C	FBgn0013348	TpnC41C	-1.6274815
FBgn0014863	40849	Mlp84B	FBgn0014863	Mlp84B	-1.5876431
FBgn0013988	36753	Strn-Mlck	FBgn0265045	Strn-Mlck	-1.5641816
FBgn0010423	36195	TpnC47D	FBgn0010423	TpnC47D	-1.5163478
FBgn0031692	33752	TpnC25D	FBgn0031692	TpnC25D	-1.4733668
FBgn0260952	NA	NA	FBgn0261836	Msp300	-1.4053835
FBgn0010424	39916	TpnC73F	FBgn0010424	TpnC73F	-1.3234042
FBgn0085226	NA	NA	FBgn0263391	hts	-0.9708498
FBgn0024273	43402	WASp	FBgn0024273	WASp	-0.8992707
FBgn0063485	39864	Lasp	FBgn0063485	Lasp	-0.8562999
FBgn0035499	38490	Chd64	FBgn0035499	Chd64	-0.8276718
FBgn0025641	31075	DAAM	FBgn0025641	DAAM	-0.8172841
FBgn0043884	50070	mask	FBgn0043884	mask	-0.729909
FBgn0086368	31024	tw	FBgn0086368	tw	-0.5921539
FBgn0025633	31004	CG13366	FBgn0025633	CG13366	-0.5519966
FBgn0036044	39148	CG14168	FBgn0036044	Zasp67	-0.5023328
FBgn0023083	44233	fray	FBgn0023083	fray	-0.4684372
FBgn0053519	3346201	Unc-89	FBgn0053519	Unc-89	-0.4670483
FBgn0250788	32746	beta-Spec	FBgn0250788	beta-Spec	-0.4628312
FBgn0004657	44885	mys	FBgn0004657	mys	-0.4433642
FBgn0041789	35215	Pax	FBgn0041789	Pax	-0.4279137
FBgn0260442	38978	rhea	FBgn0260442	rhea	-0.4263232
FBgn0250789	38231	alpha-Spec	FBgn0250789	alpha-Spec	-0.4161382
FBgn0052311	2769001	zormin	FBgn0052311	zormin	-0.3321242
FBgn0041781	34519	SCAR	FBgn0041781	SCAR	-0.3030347
FBgn0261565	39889	Lmpt	FBgn0261565	Lmpt	-0.2690112
FBgn0001250	32661	if	FBgn0001250	if	-0.2225852
FBgn0260003	42327	Dys	FBgn0260003	Dys	-0.1978541
FBgn0086783	NA	NA	FBgn0264695	Mhc	-0.1956278
FBgn0000667	31166	Actn	FBgn0000667	Actn	-0.195406
FBgn0086906	44013	sls	FBgn0086906	sls	-0.1712959
FBgn0005666	43814	bt	FBgn0005666	bt	-0.168646
FBgn0003292	39297	rt	FBgn0003292	rt	-0.1643961
FBgn0027889	43228	ball	FBgn0027889	ball	-0.1403462

FBgn0011744	NA	NA	FBgn0262716	Arp3	-0.0910855
FBgn0261259	39004	Fhos	FBgn0266084	Fhos	-0.0888687
FBgn0052528	32990	CG32528	FBgn0052528	parvin	-0.0842784
FBgn0260049	39505	flr	FBgn0260049	flr	-0.0483615
FBgn0082582	43633	tmod	FBgn0082582	tmod	-0.0410298
FBgn0003149	39002	Prm	FBgn0003149	Prm	-0.0147835
FBgn0000308	33834	chic	FBgn0000308	chic	-0.0099163
FBgn0034072	36773	Dg	FBgn0034072	Dg	-0.0046527
FBgn0001233	38389	Hsp83	FBgn0001233	Hsp83	0.01345995
FBgn0011286	49090	Rya-r44F	FBgn0011286	RyR	0.02803425
FBgn0004551	NA	NA	FBgn0263006	SERCA	0.03220509
FBgn0034412	37190	abba	FBgn0265356	tn	0.03316934
FBgn0086442	35170	mib2	FBgn0086442	mib2	0.07926265
FBgn0003721	41852	Tm1	FBgn0003721	Tm1	0.091419
FBgn0086708	39518	stv	FBgn0086708	stv	0.16049569
FBgn0037130	40424	Syn1	FBgn0037130	Syn1	0.17242152
FBgn0035917	38988	Zasp66	FBgn0035917	Zasp66	0.18468278
FBgn0005633	40185	fln	FBgn0005633	fln	0.18510079
FBgn0011570	33346	cpb	FBgn0011570	cpb	0.19421219
FBgn0000047	41885	Act88F	FBgn0000047	Act88F	0.24326018
FBgn0083919	36740	Zasp52	FBgn0265991	Zasp52	0.25604825
FBgn0033739	36362	Dyb	FBgn0033739	Dyb	0.34855433
FBgn0004873	NA	NA	FBgn0263391	hts	0.37861391
FBgn0000711	44289	flw	FBgn0000711	flw	0.41729684
FBgn0025391	31129	Scgdelta	FBgn0025391	Scgdelta	0.41915275
FBgn0051374	41377	sals	FBgn0051374	sals	0.43524317
FBgn0002772	43323	Mlc1	FBgn0002772	Mlc1	0.43792411
FBgn0004028	32794	wupA	FBgn0283471	wupA	0.45359086
FBgn0011219	NA	NA	FBgn0261822	Bsg	0.54817294
FBgn0002773	43587	Mlc2	FBgn0002773	Mlc2	0.58301223
FBgn0038042	41525	Scgbeta	FBgn0038042	Scgbeta	0.60418133
FBgn0004117	41853	Tm2	FBgn0004117	Tm2	0.60585352
FBgn0038294	41824	Mf	FBgn0038294	Mf	0.60758395
FBgn0004169	32314	up	FBgn0004169	up	0.63629681
FBgn0034135	36848	Syn2	FBgn0034135	Syn2	0.70165199
FBgn0015614	46456	CanB2	FBgn0015614	CanB2	0.770014
FBgn0010812	44910	unc-45	FBgn0010812	unc-45	0.77090495
FBgn0028427	53573	Ilk	FBgn0028427	Ilk	0.83302039
FBgn0032013	34135	Scgalpha	FBgn0032013	Scgalpha	0.89234307
FBgn0033027	35498	TpnC4	FBgn0033027	TpnC4	1.05169315

pvalue	padj	AretIR_72h_A	AretIR_72h_I	IFMWT_72h_I	IFMWT_72h_B
8.31E-30	1.18E-26	8961	3651	101021	152175
8.79E-08	4.81E-06	34970	9600	141605	276089
0.00062262	0.00885533	37	93	1457	509
9.93E-06	0.00028568	6044	3300	17595	49069
0.02418895	NA	2	1	21	33
8.93E-05	0.00176733	1197	705	3093	7764
0.01101511	0.08164036	383	113	541	2300
0.00907929	0.07151415	801	613	1422	6961
4.00E-05	0.00094126	198880	225249	1234115	928121
0.0271862	0.15389204	224	59	266	1307
7.49E-06	0.00022314	254	123	701	902
0.00070037	0.00973293	25805	29159	155420	96597
8.83E-05	0.00175197	1112	565	2410	4044
0.14774877	0.4509471	30	27	145	66
0.00044136	0.0067769	1165	769	3066	2453
0.02958683	0.16387593	817	364	1160	2068
2.89E-05	0.00070874	1640	1140	3552	4015
0.01027083	0.07751967	512	441	1208	1478
0.07334296	0.29989881	3555	4002	12527	8363
0.41525151	NA	25	35	46	132
0.10523653	0.37399731	361	310	705	859
0.00572818	0.05047341	28772	20767	52179	55461
0.04287481	0.21116589	875	631	1604	1594
0.22255544	0.56047564	276371	312572	767988	568754
0.13292879	0.42624561	12326	12170	26933	27338
0.10148224	0.36570791	3044	2636	6176	5985
0.13174183	0.42454325	3171	2191	4401	6707
0.18251552	0.50643531	3214	3195	6990	6857
0.19934054	0.52962347	6243	6370	13754	13397
0.27485538	0.61962496	19683	18732	40786	36181
0.19216466	0.51997135	566	338	836	834
0.42337322	0.75411869	55096	41995	111460	68923
0.43739188	0.76701662	4925	4530	8572	8876
0.55645312	0.83595955	2784	2589	5533	4205
0.5398499	0.82711394	2449659	2310554	4831070	3797402
0.38404542	0.72626496	140124	112372	221613	226781
0.70873297	0.90532267	106809	130255	283822	152932
0.75636443	0.92330454	39422	57435	130433	51997
0.83280826	NA	25	28	16	88
0.82644713	0.94859921	76	31	56	118

0.73169696	0.91472893	631	429	765	951
0.79324188	0.93754245	24999	23934	47389	34837
0.66327114	0.88854599	3035	2044	3737	4429
0.89417875	0.97236957	685	442	656	1111
0.91733828	0.97809721	2785	1888	2376	4977
0.94215056	0.9842683	137186	102078	171350	199632
0.97868368	0.99459531	3993	2489	3297	6561
0.98843403	0.99803667	1147	1067	1794	1700
0.95350806	0.98784225	31061	19646	31480	44201
0.94086742	0.9842683	94185	106189	179165	136423
0.88550745	0.96870111	134980	107880	182450	184494
0.89966511	0.97263754	24423	20006	36473	30659
0.71037227	0.90594337	3369	2286	3595	4521
0.66771267	0.89038742	435414	293918	563958	468464
0.4434511	0.77130221	5024	3781	5966	6094
0.75863686	0.92464913	75	61	108	74
0.22578166	0.56491464	71916	41895	76350	72156
0.25226532	0.59798284	648135	373299	609508	724383
0.52827151	0.82222283	626	359	531	744
0.0542627	0.24731325	3028898	1802799	2998378	3077921
0.37986887	0.72134629	279207	252483	374919	318220
0.34631462	0.69209284	375	290	446	343
0.13900987	0.43642434	4647	3886	5131	4993
0.11421524	0.39152266	810	577	823	743
0.45619185	0.78020637	84	94	90	114
0.02278292	0.13575421	36940	25649	31732	38401
0.00956267	0.0738151	893947	498354	691544	825156
0.01920561	0.12032863	525821	300967	390927	502508
0.0662188	0.28197787	9741	5924	9437	6266
8.44E-06	0.00024892	3250633	1915528	2449566	2672893
0.09229428	0.34553382	226	147	175	186
5.68E-05	0.00122037	457481	296503	377421	365366
0.00175412	0.02012731	70886	47562	51898	65203
0.0001563	0.00290733	766566	536509	628635	639610
0.20461815	0.53630893	176	120	169	84
0.09878642	0.35983598	8618	4860	7852	3108
4.73E-05	0.00106162	13906	9471	10789	9781
0.01251764	0.08886897	3515	2207	1711	3005
0.04912609	0.23212557	319	180	231	142
0.01196447	0.08585465	30878	15327	9270	21669

FBgn_ID	symbol	newsymbol	newFBgn	featureID	genomicData	genomicData
FBgn0004873	NA	hts	FBgn0263391	E003	2R	15286531
FBgn0004873	NA	hts	FBgn0263391	E011	2R	15296742
FBgn0004873	NA	hts	FBgn0263391	E006	2R	15295346
FBgn0004873	NA	hts	FBgn0263391	E007	2R	15295480
FBgn0004873	NA	hts	FBgn0263391	E012	2R	15297125
FBgn0086906	sls	sls	FBgn0086906	E008	3L	2045196
FBgn0004028	wupA	wupA	FBgn0283471	E005	X	18004537
FBgn0004551	NA	SERCA	FBgn0263006	E010	2R	19820097
FBgn0086906	sls	sls	FBgn0086906	E027	3L	2092621
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E007	2R	11658456
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E030	2R	11849622
FBgn0086906	sls	sls	FBgn0086906	E018	3L	2078036
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E017	2R	11842338
FBgn0035917	Zasp66	Zasp66	FBgn0035917	E013	3L	8628781
FBgn0086783	NA	Mhc	FBgn0264695	E016	2L	16776263
FBgn0005666	bt	bt	FBgn0005666	E008	4	749628
FBgn0005666	bt	bt	FBgn0005666	E009	4	749900
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E007	2R	4755687
FBgn0003721	Tm1	Tm1	FBgn0003721	E024	3R	11127346
FBgn0043884	mask	mask	FBgn0043884	E015	3R	20073435
FBgn0005666	bt	bt	FBgn0005666	E027	4	763414
FBgn0005666	bt	bt	FBgn0005666	E007	4	749299
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E040	2R	11873367
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E012	2R	11839459
FBgn0005666	bt	bt	FBgn0005666	E005	4	748087
FBgn0261565	Lmpt	Lmpt	FBgn0261565	E017	3L	16905229
FBgn0261565	Lmpt	Lmpt	FBgn0261565	E018	3L	16905240
FBgn0005666	bt	bt	FBgn0005666	E033	4	772803
FBgn0011219	NA	Bsg	FBgn0261822	E006	2L	8089357
FBgn0086442	mib2	mib2	FBgn0086442	E002	2L	19034580
FBgn0052311	zormin	zormin	FBgn0052311	E014	3L	2135863
FBgn0005666	bt	bt	FBgn0005666	E015	4	754905
FBgn0005666	bt	bt	FBgn0005666	E037	4	778147
FBgn0005666	bt	bt	FBgn0005666	E006	4	748730
FBgn0005666	bt	bt	FBgn0005666	E018	4	756141
FBgn0005666	bt	bt	FBgn0005666	E010	4	751403
FBgn0005666	bt	bt	FBgn0005666	E026	4	763029
FBgn0033027	TpnC4	TpnC4	FBgn0033027	E004	2R	1394266
FBgn0011219	NA	Bsg	FBgn0261822	E011	2L	8106840
FBgn0043884	mask	mask	FBgn0043884	E011	3R	20067023

FBgn0250788	beta-Spec	beta-Spec	FBgn0250788	E006	X	17562530
FBgn0086708	stv	stv	FBgn0086708	E004	3L	13473864
FBgn0003721	Tm1	Tm1	FBgn0003721	E021	3R	11125832
FBgn0052311	zormin	zormin	FBgn0052311	E016	3L	2138294
FBgn0003149	Prm	Prm	FBgn0003149	E012	3L	8737375
FBgn0011219	NA	Bsg	FBgn0261822	E009	2L	8102598
FBgn0004657	mys	mys	FBgn0004657	E005	X	7961095
FBgn0000045	Act79B	Act79B	FBgn0000045	E001	3L	21978331
FBgn0001233	Hsp83	Hsp83	FBgn0001233	E001	3L	3193027
FBgn0051374	sals	sals	FBgn0051374	E008	3R	7271579
FBgn0261259	Fhos	Fhos	FBgn0266084	E021	3L	8790327
FBgn0000667	Actn	Actn	FBgn0000667	E006	X	1922698
FBgn0034412	abba	tn	FBgn0265356	E017	2R	14896450
FBgn0015614	CanB2	CanB2	FBgn0015614	E001	2R	3673517
FBgn0015614	CanB2	CanB2	FBgn0015614	E002	2R	3674005
FBgn0086906	sls	sls	FBgn0086906	E026	3L	2091248
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E029	2R	11848818
FBgn0086906	sls	sls	FBgn0086906	E025	3L	2091000
FBgn0086783	NA	Mhc	FBgn0264695	E020	2L	16778390
FBgn0002772	Mlc1	Mlc1	FBgn0002772	E002	3R	23483789
FBgn0003721	Tm1	Tm1	FBgn0003721	E026	3R	11129363
FBgn0003721	Tm1	Tm1	FBgn0003721	E027	3R	11130252
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E003	2R	11836313
FBgn0086906	sls	sls	FBgn0086906	E024	3L	2090495
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E019	2R	11844144
FBgn0004169	up	up	FBgn0004169	E002	X	13488318
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E005	2R	11836709
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E021	2R	11845314
FBgn0043884	mask	mask	FBgn0043884	E017	3R	20074579
FBgn0003149	Prm	Prm	FBgn0003149	E011	3L	8735437
FBgn0004169	up	up	FBgn0004169	E011	X	13493449
FBgn0034412	abba	tn	FBgn0265356	E006	2R	14884397
FBgn0038294	Mf	Mf	FBgn0038294	E014	3R	11005930
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E002	2R	11835510
FBgn0004551	NA	SERCA	FBgn0263006	E018	2R	19823103
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E001	2R	4747896
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E016	2R	11667563
FBgn0003721	Tm1	Tm1	FBgn0003721	E030	3R	11133312
FBgn0086906	sls	sls	FBgn0086906	E009	3L	2046282
FBgn0086783	NA	Mhc	FBgn0264695	E022	2L	16779728
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E015	2R	11840931

FBgn0003149	Prm	Prm	FBgn0003149	E010	3L	8735206
FBgn0004551	NA	SERCA	FBgn0263006	E011	2R	19820190
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E025	2R	19892945
FBgn0043884	mask	mask	FBgn0043884	E016	3R	20073698
FBgn0086783	NA	Mhc	FBgn0264695	E021	2L	16779093
FBgn0004873	NA	hts	FBgn0263391	E001	2R	15284840
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E038	2R	19900266
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E007	2R	11837696
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E004	2R	11836546
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E010	2R	19887654
FBgn0260049	flr	flr	FBgn0260049	E004	3L	13407158
FBgn0250788	beta-Spec	beta-Spec	FBgn0250788	E004	X	17561603
FBgn0259209	Mlp60A	Mlp60A	FBgn0259209	E002	2R	19962722
FBgn0003721	Tm1	Tm1	FBgn0003721	E001	3R	11107254
FBgn0086708	stv	stv	FBgn0086708	E001	3L	13470653
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E022	2R	11845499
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E009	2R	11838663
FBgn0261565	Lmpt	Lmpt	FBgn0261565	E026	3L	16914537
FBgn0003149	Prm	Prm	FBgn0003149	E013	3L	8738063
FBgn0034412	abba	tn	FBgn0265356	E016	2R	14896065
FBgn0001250	if	if	FBgn0001250	E004	X	16649870
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E030	2R	19895133
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E017	2R	11668490
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E038	2R	11872388
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E019	2R	19890995
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E016	2R	11841407
FBgn0086783	NA	Mhc	FBgn0264695	E033	2L	16788021
FBgn0038294	Mf	Mf	FBgn0038294	E001	3R	10996347
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E001	2R	11650070
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E037	2R	19900247
FBgn0261565	Lmpt	Lmpt	FBgn0261565	E016	3L	16904367
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E006	2R	11837111
FBgn0004117	Tm2	Tm2	FBgn0004117	E007	3R	11140250
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E014	2R	11840341
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E015	2R	19889784
FBgn0033027	TpnC4	TpnC4	FBgn0033027	E005	2R	1395189
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E040	2R	19901376
FBgn0004551	NA	SERCA	FBgn0263006	E002	2R	19815003
FBgn0003721	Tm1	Tm1	FBgn0003721	E002	3R	11107321
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E022	2R	11702234
FBgn0052311	zormin	zormin	FBgn0052311	E008	3L	2127078

FBgn0005666	bt	bt	FBgn0005666	E002	4	746295
FBgn0035917	Zasp66	Zasp66	FBgn0035917	E012	3L	8628102
FBgn0003149	Prm	Prm	FBgn0003149	E001	3L	8725958
FBgn0003721	Tm1	Tm1	FBgn0003721	E015	3R	11117086
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E009	2R	19887459
FBgn0024273	WASp	WASp	FBgn0024273	E007	3R	24656224
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E001	2R	11834431
FBgn0003721	Tm1	Tm1	FBgn0003721	E022	3R	11126469
FBgn0003721	Tm1	Tm1	FBgn0003721	E023	3R	11126733
FBgn0086783	NA	Mhc	FBgn0264695	E015	2L	16775683
FBgn0003721	Tm1	Tm1	FBgn0003721	E020	3R	11124999
FBgn0004117	Tm2	Tm2	FBgn0004117	E002	3R	11135988
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E028	2R	4772376
FBgn0250788	beta-Spec	beta-Spec	FBgn0250788	E007	X	17562784
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E027	2R	4771888
FBgn0004117	Tm2	Tm2	FBgn0004117	E008	3R	11140835
FBgn0036044	CG14168	Zasp67	FBgn0036044	E008	3L	9790528
FBgn0035917	Zasp66	Zasp66	FBgn0035917	E015	3L	8630539
FBgn0035917	Zasp66	Zasp66	FBgn0035917	E014	3L	8629569
FBgn0003721	Tm1	Tm1	FBgn0003721	E018	3R	11122313
FBgn0052528	CG32528	parvin	FBgn0052528	E003	X	19640844
FBgn0086368	tw	tw	FBgn0086368	E009	X	681119
FBgn0086783	NA	Mhc	FBgn0264695	E004	2L	16768584
FBgn0086783	NA	Mhc	FBgn0264695	E012	2L	16773277
FBgn0003721	Tm1	Tm1	FBgn0003721	E025	3R	11128875
FBgn0004657	mys	mys	FBgn0004657	E007	X	7962903
FBgn0035917	Zasp66	Zasp66	FBgn0035917	E017	3L	8631367
FBgn0038294	Mf	Mf	FBgn0038294	E002	3R	10997658
FBgn0086906	sls	sls	FBgn0086906	E017	3L	2076902
FBgn0260049	flr	flr	FBgn0260049	E005	3L	13407437
FBgn0035499	Chd64	Chd64	FBgn0035499	E003	3L	4122156
FBgn0038294	Mf	Mf	FBgn0038294	E004	3R	10998566
FBgn0052311	zormin	zormin	FBgn0052311	E015	3L	2137327
FBgn0004028	wupA	wupA	FBgn0283471	E011	X	18008644
FBgn0004873	NA	hts	FBgn0263391	E002	2R	15286061
FBgn0005666	bt	bt	FBgn0005666	E040	4	788388
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E029	2R	4772641
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E018	2R	11669278
FBgn0000308	chic	chic	FBgn0000308	E004	2L	5979940
FBgn0052311	zormin	zormin	FBgn0052311	E005	3L	2123597
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E001	2R	19883066

FBgn0035917	Zasp66	Zasp66	FBgn0035917	E016	3L	8631257
FBgn0261259	Fhos	Fhos	FBgn0266084	E020	3L	8790100
FBgn0086783	NA	Mhc	FBgn0264695	E006	2L	16769459
FBgn0086906	sls	sls	FBgn0086906	E015	3L	2070477
FBgn0002772	Mlc1	Mlc1	FBgn0002772	E001	3R	23483285
FBgn0000667	Actn	Actn	FBgn0000667	E009	X	1924248
FBgn0038294	Mf	Mf	FBgn0038294	E003	3R	10998322
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E023	2R	4769809
FBgn0260049	flr	flr	FBgn0260049	E003	3L	13406417
FBgn0250788	beta-Spec	beta-Spec	FBgn0250788	E003	X	17561334
FBgn0086783	NA	Mhc	FBgn0264695	E009	2L	16771043
FBgn0261259	Fhos	Fhos	FBgn0266084	E023	3L	8791221
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E016	2R	4762215
FBgn0011219	NA	Bsg	FBgn0261822	E013	2L	8107238
FBgn0086906	sls	sls	FBgn0086906	E011	3L	2046858
FBgn0004551	NA	SERCA	FBgn0263006	E001	2R	19814479
FBgn0086783	NA	Mhc	FBgn0264695	E008	2L	16770911
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E033	2R	19898446
FBgn0052528	CG32528	parvin	FBgn0052528	E004	X	19641283
FBgn0038294	Mf	Mf	FBgn0038294	E011	3R	11002135
FBgn0261565	Lmpt	Lmpt	FBgn0261565	E015	3L	16899923
FBgn0036044	CG14168	Zasp67	FBgn0036044	E005	3L	9786265
FBgn0033027	TpnC4	TpnC4	FBgn0033027	E006	2R	1395247
FBgn0003721	Tm1	Tm1	FBgn0003721	E009	3R	11113046
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E011	2R	19887885
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E006	2R	19886267
FBgn0034412	abba	tn	FBgn0265356	E002	2R	14877281
FBgn0004028	wupA	wupA	FBgn0283471	E004	X	18003503
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E024	2R	4770559
FBgn0005666	bt	bt	FBgn0005666	E042	4	791179
FBgn0004873	NA	hts	FBgn0263391	E013	2R	15297310
FBgn0002773	Mlc2	Mlc2	FBgn0002773	E001	3R	25997160
FBgn0261259	Fhos	Fhos	FBgn0266084	E001	3L	8747243
FBgn0052311	zormin	zormin	FBgn0052311	E009	3L	2129054
FBgn0261259	Fhos	Fhos	FBgn0266084	E015	3L	8782039
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E007	2R	19886922
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E006	2R	4755103
FBgn0033027	TpnC4	TpnC4	FBgn0033027	E003	2R	1393818
FBgn0036044	CG14168	Zasp67	FBgn0036044	E003	3L	9785090
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E005	2R	19885490
FBgn0034412	abba	tn	FBgn0265356	E015	2R	14895914

FBgn0086783	NA	Mhc	FBgn0264695	E027	2L	16784251
FBgn0035917	Zasp66	Zasp66	FBgn0035917	E011	3L	8627683
FBgn0004551	NA	SERCA	FBgn0263006	E009	2R	19819929
FBgn0011219	NA	Bsg	FBgn0261822	E002	2L	8083522
FBgn0000047	Act88F	Act88F	FBgn0000047	E003	3R	11267324
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E006	2R	11652758
FBgn0024273	WASp	WASp	FBgn0024273	E001	3R	24650228
FBgn0261259	Fhos	Fhos	FBgn0266084	E011	3L	8779072
FBgn0261259	Fhos	Fhos	FBgn0266084	E022	3L	8790790
FBgn0034412	abba	tn	FBgn0265356	E004	2R	14881424
FBgn0051374	sals	sals	FBgn0051374	E003	3R	7264146
FBgn0011219	NA	Bsg	FBgn0261822	E015	2L	8107881
FBgn0000667	Actn	Actn	FBgn0000667	E003	X	1921317
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E009	2R	4757349
FBgn0261565	Lmpt	Lmpt	FBgn0261565	E025	3L	16914280
FBgn0086708	stv	stv	FBgn0086708	E006	3L	13474136
FBgn0034412	abba	tn	FBgn0265356	E014	2R	14895604
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E028	2R	19894788
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E039	2R	19900437
FBgn0004117	Tm2	Tm2	FBgn0004117	E001	3R	11135915
FBgn0052311	zormin	zormin	FBgn0052311	E004	3L	2123300
FBgn0034412	abba	tn	FBgn0265356	E010	2R	14892110
FBgn0004028	wupA	wupA	FBgn0283471	E003	X	18000921
FBgn0086783	NA	Mhc	FBgn0264695	E026	2L	16783833
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E002	2R	11650855
FBgn0086906	sls	sls	FBgn0086906	E035	3L	2104855
FBgn0004551	NA	SERCA	FBgn0263006	E005	2R	19817023
FBgn0086708	stv	stv	FBgn0086708	E009	3L	13475535
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E002	2R	19883404
FBgn0086783	NA	Mhc	FBgn0264695	E031	2L	16787517
FBgn0259209	Mlp60A	Mlp60A	FBgn0259209	E003	2R	19962972
FBgn0051374	sals	sals	FBgn0051374	E004	3R	7264502
FBgn0086783	NA	Mhc	FBgn0264695	E032	2L	16787558
FBgn0000308	chic	chic	FBgn0000308	E003	2L	5979412
FBgn0051374	sals	sals	FBgn0051374	E001	3R	7263269
FBgn0000667	Actn	Actn	FBgn0000667	E011	X	1928988
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E008	2R	19887218
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E035	2R	19900012
FBgn0034412	abba	tn	FBgn0265356	E005	2R	14882516
FBgn0004169	up	up	FBgn0004169	E004	X	13489037
FBgn0051374	sals	sals	FBgn0051374	E006	3R	7266618

FBgn0036044	CG14168	Zasp67	FBgn0036044	E001	3L	9781676
FBgn0003721	Tm1	Tm1	FBgn0003721	E014	3R	11116668
FBgn0051374	sals	sals	FBgn0051374	E002	3R	7263865
FBgn0005666	bt	bt	FBgn0005666	E038	4	778491
FBgn0005666	bt	bt	FBgn0005666	E046	4	795003
FBgn0261259	Fhos	Fhos	FBgn0266084	E018	3L	8783685
FBgn0000045	Act79B	Act79B	FBgn0000045	E003	3L	21979738
FBgn0000667	Actn	Actn	FBgn0000667	E010	X	1924476
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E022	2R	4767362
FBgn0086442	mib2	mib2	FBgn0086442	E001	2L	19034444
FBgn0003721	Tm1	Tm1	FBgn0003721	E019	3R	11122431
FBgn0003149	Prm	Prm	FBgn0003149	E007	3L	8732270
FBgn0005633	fln	fln	FBgn0005633	E001	3L	19982651
FBgn0003721	Tm1	Tm1	FBgn0003721	E008	3R	11112721
FBgn0005666	bt	bt	FBgn0005666	E030	4	767102
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E014	2R	19889532
FBgn0004551	NA	SERCA	FBgn0263006	E003	2R	19816640
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E017	2R	19890251
FBgn0035917	Zasp66	Zasp66	FBgn0035917	E002	3L	8619309
FBgn0034412	abba	tn	FBgn0265356	E009	2R	14888597
FBgn0003721	Tm1	Tm1	FBgn0003721	E004	3R	11110335
FBgn0043884	mask	mask	FBgn0043884	E014	3R	20068377
FBgn0000667	Actn	Actn	FBgn0000667	E008	X	1923874
FBgn0086783	NA	Mhc	FBgn0264695	E014	2L	16775211
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E021	2R	19891480
FBgn0005633	fln	fln	FBgn0005633	E004	3L	19984249
FBgn0261259	Fhos	Fhos	FBgn0266084	E014	3L	8780619
FBgn0000308	chic	chic	FBgn0000308	E001	2L	5972900
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E012	2R	4759725
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E003	2R	11651151
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E020	2R	19891299
FBgn0086783	NA	Mhc	FBgn0264695	E007	2L	16770457
FBgn0004169	up	up	FBgn0004169	E010	X	13492207
FBgn0005666	bt	bt	FBgn0005666	E031	4	767933
FBgn0005633	fln	fln	FBgn0005633	E002	3L	19983249
FBgn0003149	Prm	Prm	FBgn0003149	E003	3L	8727340
FBgn0002773	Mlc2	Mlc2	FBgn0002773	E002	3R	25999054
FBgn0038294	Mf	Mf	FBgn0038294	E010	3R	11002086
FBgn0086906	sls	sls	FBgn0086906	E014	3L	2062454
FBgn0034412	abba	tn	FBgn0265356	E012	2R	14893294
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E019	2R	4765643

FBgn0024273	WASp	WASp	FBgn0024273	E002	3R	24651487
FBgn0052311	zormin	zormin	FBgn0052311	E010	3L	2129580
FBgn0086906	sls	sls	FBgn0086906	E016	3L	2076630
FBgn0004028	wupA	wupA	FBgn0283471	E007	X	18006595
FBgn0005666	bt	bt	FBgn0005666	E047	4	795541
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E018	2R	19890571
FBgn0000047	Act88F	Act88F	FBgn0000047	E001	3R	11265710
FBgn0052311	zormin	zormin	FBgn0052311	E007	3L	2125239
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E026	2R	4771720
FBgn0003149	Prm	Prm	FBgn0003149	E008	3L	8732467
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E004	2R	19885295
FBgn0261259	Fhos	Fhos	FBgn0266084	E005	3L	8770097
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E024	2R	19892784
FBgn0002773	Mlc2	Mlc2	FBgn0002773	E003	3R	25999117
FBgn0086906	sls	sls	FBgn0086906	E002	3L	2040776
FBgn0001250	if	if	FBgn0001250	E002	X	16647668
FBgn0036044	CG14168	Zasp67	FBgn0036044	E002	3L	9783556
FBgn0035499	Chd64	Chd64	FBgn0035499	E002	3L	4115305
FBgn0086906	sls	sls	FBgn0086906	E012	3L	2047846
FBgn0035917	Zasp66	Zasp66	FBgn0035917	E003	3L	8620061
FBgn0086783	NA	Mhc	FBgn0264695	E029	2L	16785909
FBgn0086368	tw	tw	FBgn0086368	E010	X	681672
FBgn0004657	mys	mys	FBgn0004657	E006	X	7961593
FBgn0035917	Zasp66	Zasp66	FBgn0035917	E001	3L	8617473
FBgn0011219	NA	Bsg	FBgn0261822	E005	2L	8089185
FBgn0038294	Mf	Mf	FBgn0038294	E006	3R	10999859
FBgn0001233	Hsp83	Hsp83	FBgn0001233	E002	3L	3194499
FBgn0011219	NA	Bsg	FBgn0261822	E001	2L	8083422
FBgn0261259	Fhos	Fhos	FBgn0266084	E012	3L	8779400
FBgn0051374	sals	sals	FBgn0051374	E005	3R	7265607
FBgn0002773	Mlc2	Mlc2	FBgn0002773	E005	3R	26000206
FBgn0000308	chic	chic	FBgn0000308	E005	2L	5980209
FBgn0000667	Actn	Actn	FBgn0000667	E001	X	1919127
FBgn0005666	bt	bt	FBgn0005666	E045	4	794811
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E013	2R	19888481
FBgn0004028	wupA	wupA	FBgn0283471	E001	X	17999586
FBgn0000667	Actn	Actn	FBgn0000667	E002	X	1919808
FBgn0002772	Mlc1	Mlc1	FBgn0002772	E003	3R	23484191
FBgn0003149	Prm	Prm	FBgn0003149	E009	3L	8732680
FBgn0086442	mib2	mib2	FBgn0086442	E007	2L	19039041
FBgn0261259	Fhos	Fhos	FBgn0266084	E013	3L	8779722

FBgn0261259	Fhos	Fhos	FBgn0266084	E009	3L	8778476
FBgn0261259	Fhos	Fhos	FBgn0266084	E017	3L	8783270
FBgn0015614	CanB2	CanB2	FBgn0015614	E003	2R	3674739
FBgn0004117	Tm2	Tm2	FBgn0004117	E004	3R	11138122
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E005	2R	11652628
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E029	2R	19894984
FBgn0004028	wupA	wupA	FBgn0283471	E008	X	18007291
FBgn0052311	zormin	zormin	FBgn0052311	E013	3L	2134325
FBgn0004551	NA	SERCA	FBgn0263006	E004	2R	19816837
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E025	2R	4771127
FBgn0004028	wupA	wupA	FBgn0283471	E013	X	18010740
FBgn0086906	sls	sls	FBgn0086906	E023	3L	2081689
FBgn0261565	Lmpt	Lmpt	FBgn0261565	E014	3L	16895478
FBgn0004169	up	up	FBgn0004169	E001	X	13487610
FBgn0003721	Tm1	Tm1	FBgn0003721	E029	3R	11132063
FBgn0261259	Fhos	Fhos	FBgn0266084	E016	3L	8782471
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E008	2R	4755871
FBgn0003149	Prm	Prm	FBgn0003149	E002	3L	8726389
FBgn0036044	CG14168	Zasp67	FBgn0036044	E007	3L	9787711
FBgn0034412	abba	tn	FBgn0265356	E008	2R	14885929
FBgn0035499	Chd64	Chd64	FBgn0035499	E001	3L	4114289
FBgn0005666	bt	bt	FBgn0005666	E035	4	773964
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E018	2R	4762862
FBgn0052311	zormin	zormin	FBgn0052311	E011	3L	2130793
FBgn0011219	NA	Bsg	FBgn0261822	E014	2L	8107748
FBgn0001250	if	if	FBgn0001250	E001	X	16646222
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E003	2R	19883581
FBgn0261259	Fhos	Fhos	FBgn0266084	E002	3L	8752540
FBgn0086783	NA	Mhc	FBgn0264695	E030	2L	16787079
FBgn0004873	NA	hts	FBgn0263391	E018	2R	15311099
FBgn0003149	Prm	Prm	FBgn0003149	E004	3L	8730121
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E019	2R	11670593
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E023	2R	19892546
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E012	2R	11663281
FBgn0086906	sls	sls	FBgn0086906	E007	3L	2043449
FBgn0052311	zormin	zormin	FBgn0052311	E020	3L	2149741
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E021	2R	11690866
FBgn0003721	Tm1	Tm1	FBgn0003721	E005	3R	11110951
FBgn0261565	Lmpt	Lmpt	FBgn0261565	E024	3L	16913982
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E027	2R	19894539
FBgn0086906	sls	sls	FBgn0086906	E001	3L	2040179

FBgn0043884	mask	mask	FBgn0043884	E003	3R	20061749
FBgn0000667	Actn	Actn	FBgn0000667	E005	X	1921968
FBgn0260049	flr	flr	FBgn0260049	E006	3L	13407766
FBgn0004169	up	up	FBgn0004169	E005	X	13489183
FBgn0036044	CG14168	Zasp67	FBgn0036044	E006	3L	9786627
FBgn0086442	mib2	mib2	FBgn0086442	E003	2L	19035761
FBgn0004551	NA	SERCA	FBgn0263006	E007	2R	19817506
FBgn0000045	Act79B	Act79B	FBgn0000045	E002	3L	21978425
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E016	2R	19889974
FBgn0004169	up	up	FBgn0004169	E007	X	13490409
FBgn0015614	CanB2	CanB2	FBgn0015614	E004	2R	3675096
FBgn0005666	bt	bt	FBgn0005666	E039	4	778846
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E014	2R	11665857
FBgn0005666	bt	bt	FBgn0005666	E044	4	794643
FBgn0004169	up	up	FBgn0004169	E006	X	13489353
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E013	2R	4759984
FBgn0038294	Mf	Mf	FBgn0038294	E009	3R	11001906
FBgn0086783	NA	Mhc	FBgn0264695	E025	2L	16782775
FBgn0052311	zormin	zormin	FBgn0052311	E003	3L	2122610
FBgn0004169	up	up	FBgn0004169	E014	X	13494103
FBgn0086906	sls	sls	FBgn0086906	E029	3L	2094008
FBgn0034412	abba	tn	FBgn0265356	E007	2R	14884633
FBgn0004117	Tm2	Tm2	FBgn0004117	E005	3R	11138831
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E012	2R	19888120
FBgn0086906	sls	sls	FBgn0086906	E034	3L	2103428
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E035	2R	11856581
FBgn0000308	chic	chic	FBgn0000308	E002	2L	5976611
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E020	2R	11670820
FBgn0004551	NA	SERCA	FBgn0263006	E006	2R	19817205
FBgn0005666	bt	bt	FBgn0005666	E036	4	774913
FBgn0002773	Mlc2	Mlc2	FBgn0002773	E004	3R	25999294
FBgn0086906	sls	sls	FBgn0086906	E028	3L	2093761
FBgn0005666	bt	bt	FBgn0005666	E043	4	793029
FBgn0004169	up	up	FBgn0004169	E008	X	13490412
FBgn0086783	NA	Mhc	FBgn0264695	E017	2L	16776850
FBgn0004657	mys	mys	FBgn0004657	E002	X	7957873
FBgn0000047	Act88F	Act88F	FBgn0000047	E002	3R	11266322
FBgn0033027	TpnC4	TpnC4	FBgn0033027	E007	2R	1395350
FBgn0036044	CG14168	Zasp67	FBgn0036044	E004	3L	9785407
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E031	2R	19895357
FBgn0086906	sls	sls	FBgn0086906	E004	3L	2041710

FBgn0259209	Mlp60A	Mlp60A	FBgn0259209	E009	2R	19964581
FBgn0002772	Mlc1	Mlc1	FBgn0002772	E004	3R	23484338
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E017	2R	4762440
FBgn0086906	sls	sls	FBgn0086906	E033	3L	2100565
FBgn0261565	Lmpt	Lmpt	FBgn0261565	E013	3L	16895229
FBgn0003721	Tm1	Tm1	FBgn0003721	E016	3R	11120835
FBgn0000667	Actn	Actn	FBgn0000667	E012	X	1936080
FBgn0261259	Fhos	Fhos	FBgn0266084	E010	3L	8778794
FBgn0086783	NA	Mhc	FBgn0264695	E028	2L	16784666
FBgn0043884	mask	mask	FBgn0043884	E006	3R	20063084
FBgn0011219	NA	Bsg	FBgn0261822	E010	2L	8105692
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E010	2R	11661933
FBgn0003721	Tm1	Tm1	FBgn0003721	E013	3R	11113975
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E003	2R	4753361
FBgn0086708	stv	stv	FBgn0086708	E007	3L	13474236
FBgn0033027	TpnC4	TpnC4	FBgn0033027	E002	2R	1393743
FBgn0011219	NA	Bsg	FBgn0261822	E007	2L	8089394
FBgn0086906	sls	sls	FBgn0086906	E003	3L	2041393
FBgn0035917	Zasp66	Zasp66	FBgn0035917	E004	3L	8620527
FBgn0024273	WASp	WASp	FBgn0024273	E004	3R	24651964
FBgn0052528	CG32528	parvin	FBgn0052528	E001	X	19640090
FBgn0038294	Mf	Mf	FBgn0038294	E005	3R	10999703
FBgn0004657	mys	mys	FBgn0004657	E001	X	7955680
FBgn0086783	NA	Mhc	FBgn0264695	E013	2L	16774450
FBgn0261565	Lmpt	Lmpt	FBgn0261565	E012	3L	16892567
FBgn0004028	wupA	wupA	FBgn0283471	E002	X	18000714
FBgn0250788	beta-Spec	beta-Spec	FBgn0250788	E002	X	17555022
FBgn0004169	up	up	FBgn0004169	E015	X	13496451
FBgn0086783	NA	Mhc	FBgn0264695	E024	2L	16782344
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E013	2R	11664683
FBgn0000667	Actn	Actn	FBgn0000667	E004	X	1921554
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E002	2R	4750348
FBgn0043884	mask	mask	FBgn0043884	E001	3R	20057446
FBgn0004551	NA	SERCA	FBgn0263006	E008	2R	19817681
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E034	2R	19899791
FBgn0005666	bt	bt	FBgn0005666	E012	4	752186
FBgn0038294	Mf	Mf	FBgn0038294	E008	3R	11001677
FBgn0024273	WASp	WASp	FBgn0024273	E003	3R	24651732
FBgn0004169	up	up	FBgn0004169	E009	X	13491414
FBgn0260049	flr	flr	FBgn0260049	E008	3L	13409095
FBgn0033027	TpnC4	TpnC4	FBgn0033027	E001	2R	1390942

FBgn0004117	Tm2	Tm2	FBgn0004117	E006	3R	11139313
FBgn0260049	flr	flr	FBgn0260049	E007	3L	13408877
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E021	2R	4767014
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E026	2R	19893917
FBgn0002772	Mlc1	Mlc1	FBgn0002772	E005	3R	23485651
FBgn0034412	abba	tn	FBgn0265356	E001	2R	14874846
FBgn0051374	sals	sals	FBgn0051374	E009	3R	7272841
FBgn0002772	Mlc1	Mlc1	FBgn0002772	E006	3R	23485832
FBgn0086783	NA	Mhc	FBgn0264695	E023	2L	16780550
FBgn0086906	sls	sls	FBgn0086906	E005	3L	2042091
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E014	2R	4760800
FBgn0261259	Fhos	Fhos	FBgn0266084	E003	3L	8756150
FBgn0261259	Fhos	Fhos	FBgn0266084	E006	3L	8775648
FBgn0086906	sls	sls	FBgn0086906	E006	3L	2043241
FBgn0005633	fln	fln	FBgn0005633	E003	3L	19983471
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E005	2R	4754650
FBgn0052311	zormin	zormin	FBgn0052311	E018	3L	2140225
FBgn0005666	bt	bt	FBgn0005666	E041	4	789430
FBgn0086708	stv	stv	FBgn0086708	E008	3L	13474314
FBgn0001250	if	if	FBgn0001250	E005	X	16652547
FBgn0005666	bt	bt	FBgn0005666	E014	4	754546
FBgn0086906	sls	sls	FBgn0086906	E032	3L	2094926
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E009	2R	11661321
FBgn0259209	Mlp60A	Mlp60A	FBgn0259209	E005	2R	19963704
FBgn0043884	mask	mask	FBgn0043884	E013	3R	20068002
FBgn0038294	Mf	Mf	FBgn0038294	E012	3R	11004002
FBgn0004169	up	up	FBgn0004169	E013	X	13493494
FBgn0261565	Lmpt	Lmpt	FBgn0261565	E023	3L	16912571
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E004	2R	11651431
FBgn0053519	Unc-89	Unc-89	FBgn0053519	E032	2R	19896224
FBgn0011219	NA	Bsg	FBgn0261822	E003	2L	8088306
FBgn0086906	sls	sls	FBgn0086906	E036	3L	2105150
FBgn0086906	sls	sls	FBgn0086906	E013	3L	2052655
FBgn0004028	wupA	wupA	FBgn0283471	E009	X	18007480
FBgn0004873	NA	hts	FBgn0263391	E004	2R	15287023
FBgn0004873	NA	hts	FBgn0263391	E014	2R	15298095
FBgn0052311	zormin	zormin	FBgn0052311	E012	3L	2134100
FBgn0038294	Mf	Mf	FBgn0038294	E013	3R	11004761
FBgn0052528	CG32528	parvin	FBgn0052528	E002	X	19640675
FBgn0261565	Lmpt	Lmpt	FBgn0261565	E019	3L	16906324
FBgn0003721	Tm1	Tm1	FBgn0003721	E028	3R	11130900

FBgn0086906	sls	sls	FBgn0086906	E031	3L	2094573
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E011	2R	11662263
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E020	2R	4766723
FBgn0051374	sals	sals	FBgn0051374	E007	3R	7266845
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E004	2R	4754509
FBgn0004873	NA	hts	FBgn0263391	E008	2R	15295629
FBgn0261259	Fhos	Fhos	FBgn0266084	E008	3L	8778221
FBgn0086906	sls	sls	FBgn0086906	E030	3L	2094276
FBgn0011286	Rya-r44F	RyR	FBgn0011286	E010	2R	4758088
FBgn0038294	Mf	Mf	FBgn0038294	E007	3R	11001347
FBgn0034412	abba	tn	FBgn0265356	E013	2R	14895092
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E027	2R	11847750
FBgn0086906	sls	sls	FBgn0086906	E037	3L	2114126
FBgn0011219	NA	Bsg	FBgn0261822	E012	2L	8107066
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E026	2R	11847382
FBgn0005666	bt	bt	FBgn0005666	E029	4	765998
FBgn0261259	Fhos	Fhos	FBgn0266084	E007	3L	8778099
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E039	2R	11872979
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E024	2R	11846916
FBgn0052311	zormin	zormin	FBgn0052311	E017	3L	2139601
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E028	2R	11847986
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E031	2R	11850542
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E025	2R	11847294
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E034	2R	11854099
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E015	2R	11666770
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E032	2R	11852317
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E033	2R	11853253
FBgn0086783	NA	Mhc	FBgn0264695	E018	2L	16777631
FBgn0259209	Mlp60A	Mlp60A	FBgn0259209	E006	2R	19963869
FBgn0004028	wupA	wupA	FBgn0283471	E010	X	18007773
FBgn0004169	up	up	FBgn0004169	E003	X	13488863
FBgn0034412	abba	tn	FBgn0265356	E003	2R	14878540
FBgn0259209	Mlp60A	Mlp60A	FBgn0259209	E008	2R	19964177
FBgn0043884	mask	mask	FBgn0043884	E007	3R	20065138
FBgn0259209	Mlp60A	Mlp60A	FBgn0259209	E001	2R	19962536
FBgn0004657	mys	mys	FBgn0004657	E004	X	7959481
FBgn0035917	Zasp66	Zasp66	FBgn0035917	E008	3L	8623477
FBgn0035917	Zasp66	Zasp66	FBgn0035917	E010	3L	8627368
FBgn0035917	Zasp66	Zasp66	FBgn0035917	E006	3L	8623308
FBgn0086442	mib2	mib2	FBgn0086442	E005	2L	19038085
FBgn0033027	TpnC4	TpnC4	FBgn0033027	E008	2R	1395369

FBgn0043884	mask	mask	FBgn0043884	E008	3R	20065264
FBgn0001250	if	if	FBgn0001250	E003	X	16649555
FBgn0259209	Mlp60A	Mlp60A	FBgn0259209	E010	2R	19964961
FBgn0043884	mask	mask	FBgn0043884	E009	3R	20065542
FBgn0003721	Tm1	Tm1	FBgn0003721	E010	3R	11113544
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E008	2R	11838113
FBgn0052311	zormin	zormin	FBgn0052311	E006	3L	2124182
FBgn0035917	Zasp66	Zasp66	FBgn0035917	E009	3L	8623617
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E018	2R	11842384
FBgn0005666	bt	bt	FBgn0005666	E011	4	751689
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E036	2R	11871579
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E020	2R	11844313
FBgn0005666	bt	bt	FBgn0005666	E023	4	758362
FBgn0005666	bt	bt	FBgn0005666	E032	4	771196
FBgn0004551	NA	SERCA	FBgn0263006	E014	2R	19821060
FBgn0004551	NA	SERCA	FBgn0263006	E015	2R	19821071
FBgn0004551	NA	SERCA	FBgn0263006	E013	2R	19820782
FBgn0013988	Strn-Mlck	Strn-Mlck	FBgn0265045	E037	2R	11872159
FBgn0004028	wupA	wupA	FBgn0283471	E006	X	18005971
FBgn0086906	sls	sls	FBgn0086906	E020	3L	2079373
FBgn0004028	wupA	wupA	FBgn0283471	E012	X	18008680
FBgn0083919	Zasp52	Zasp52	FBgn0265991	E008	2R	11660546
FBgn0004873	NA	hts	FBgn0263391	E015	2R	15298665
FBgn0004873	NA	hts	FBgn0263391	E017	2R	15306062
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genomicData	genomicData	genomicData	pval	padj	log2FC	transcripts
15286598	68	-	0.08061497	NA	-21.372715	c(FBtr030136
15297124	383	-	0.21861207	NA	-20.385915	c(FBtr030135
15295417	72	-	0.21861207	NA	-20.385915	c(FBtr030136
15295560	81	-	0.21861207	NA	-20.385915	c(FBtr030136
15297248	124	-	0.21861207	NA	-20.385915	c(FBtr030136
2046164	969	-	0.00044808	0.03402406	-18.663893	FBtr0072849
18004637	101	-	1.18E-08	4.03E-06	-18.123906	c(FBtr007452
19820114	18	-	0.09311838	0.54184537	-18.037156	c(FBtr007221
2092969	349	-	0.03060718	NA	-17.207098	c(FBtr007284
11658652	197	-	0.25599065	NA	-16.879147	FBtr0302163
11850332	711	-	1.79E-10	8.06E-08	-15.623564	c(FBtr030279
2078140	105	-	0.27275278	NA	-15.20373	FBtr0072849
11842383	46	-	0.01434321	0.2355044	-14.65821	c(FBtr030279
8628852	72	+	4.04E-08	1.19E-05	-14.073339	c(FBtr008956
16776433	171	+	7.06E-09	2.56E-06	-13.894001	c(FBtr008090
749828	201	+	0.10233808	NA	-12.053576	c(FBtr030134
750201	302	+	0.10233808	NA	-12.053576	c(FBtr030134
4755811	125	+	0.09492064	NA	-12.017154	c(FBtr008863
11127408	63	+	0.08659629	NA	-11.742086	c(FBtr008996
20073611	177	+	0.01142299	NA	-11.72603	c(FBtr008456
763787	374	+	0.15489501	NA	-11.638317	c(FBtr030134
749440	142	+	0.16692958	NA	-11.635286	c(FBtr030134
11873458	92	-	0.07706626	NA	-11.620937	c(FBtr008727
11839597	139	-	0.07706626	NA	-11.620937	c(FBtr030279
748249	163	+	0.19536314	NA	-11.602546	c(FBtr030134
16905239	11	+	0.23732745	NA	-11.320798	c(FBtr030278
16905429	190	+	0.23732745	NA	-11.320798	c(FBtr030277
773566	764	+	0.20330633	NA	-11.267546	c(FBtr030134
8089393	37	+	0.11576754	NA	-11.209939	c(FBtr007956
19035000	421	+	0.0213384	NA	-10.996249	FBtr0081142
2136057	195	-	0.05113227	NA	-10.955926	c(FBtr011085
755027	123	+	0.32868355	NA	-10.869281	c(FBtr030134
778428	282	+	0.32868355	NA	-10.869281	c(FBtr030134
748871	142	+	0.32868355	NA	-10.869281	c(FBtr030134
756449	309	+	0.32868355	NA	-10.869281	c(FBtr030134
751626	224	+	0.32868355	NA	-10.869281	c(FBtr030134
763176	148	+	0.32868355	NA	-10.869281	c(FBtr030134
1394299	34	-	0.0118141	0.21448606	-10.785994	c(FBtr030201
8107000	161	+	0.21843516	NA	-10.635042	c(FBtr007957
20067298	276	+	0.13556038	NA	-10.577652	c(FBtr008456

17562696	167	+	0.01816392	NA	-10.487172	FBtr0074454
13474014	151	+	0.16983069	NA	-10.23158	FBtr0075809
11125902	71	+	0.20001156	NA	-10.175611	c(FBtr030196
2138470	177	-	0.16855029	NA	-9.9567496	c(FBtr011085
8737431	57	-	0.06806424	NA	-9.6906436	c(FBtr007659
8103503	906	+	0.37483246	NA	-9.6278303	FBtr0079574
7961529	435	+	0.22497904	NA	-9.1132071	FBtr0071105
21978348	18	+	0.04116914	NA	-8.7243372	FBtr0078478
3193367	341	+	0.01164253	NA	-8.5787521	FBtr0073040
7271716	138	-	0.29754572	NA	-8.4357518	FBtr0082400
8790789	463	+	0.21412899	NA	-8.1801336	FBtr0302583
1922783	86	-	0.14440101	NA	-7.6271929	FBtr0070344
14896469	20	+	0.18396359	NA	-7.6038011	FBtr0114622
3673773	257	+	0.04002759	NA	-7.464346	FBtr0088930
3674044	40	+	0.06960562	NA	-7.1397316	FBtr0088930
2092559	1312	-	1.08E-16	1.01E-13	-5.9641609	c(FBtr007284
11849561	744	-	2.50E-19	3.12E-16	-4.7825592	c(FBtr030279
2091129	130	-	8.00E-15	6.42E-12	-4.5080194	c(FBtr007284
16778507	118	+	3.43E-21	6.43E-18	-4.2775327	c(FBtr030182
23483835	47	-	2.36E-06	0.00045821	-3.8248796	FBtr0085196
11130251	889	+	0.00048646	0.03502649	-3.8157069	c(FBtr008996
11130694	443	+	5.48E-08	1.58E-05	-3.7164742	FBtr0089968
11836490	178	-	2.88E-11	1.57E-08	-3.5889488	c(FBtr008727
2090999	505	-	0.00042203	0.0331782	-3.570705	FBtr0072848
11844312	169	-	2.21E-07	5.78E-05	-3.4427433	c(FBtr030279
13488396	79	-	8.04E-18	9.04E-15	-3.1034257	c(FBtr007385
11837050	342	-	2.32E-08	7.46E-06	-3.0752595	c(FBtr008727
11845446	133	-	2.81E-08	8.52E-06	-3.0112779	c(FBtr030279
20075970	1392	+	0.31591803	0.78546168	-2.9457873	FBtr0084562
8735523	87	-	0.04128952	NA	-2.9154587	c(FBtr007659
13493490	42	-	0.01362327	0.23022294	-2.8076707	c(FBtr007385
14884539	143	+	0.07230608	NA	-2.7989613	c(FBtr008657
11005992	63	-	0.00567281	0.14791431	-2.7769169	c(FBtr030214
11836215	706	-	3.92E-23	1.47E-19	-2.7188748	c(FBtr008727
19823219	117	-	0.00114264	0.06167449	-2.7135291	FBtr0072212
4747935	40	+	0.09862569	NA	-2.702942	c(FBtr008863
11667782	220	-	3.66E-11	1.87E-08	-2.6238526	c(FBtr030131
11133702	391	+	0.0376214	0.38505398	-2.6217457	c(FBtr008996
2046533	252	-	0.03837351	0.38916086	-2.5078018	FBtr0072849
16779845	118	+	0.00033499	0.02788642	-2.4397772	c(FBtr030182
11841342	412	-	1.49E-21	3.34E-18	-2.3922225	c(FBtr030279

8735372	167	-	0.13534138	0.61320898	-2.3412515	c(FBtr007659
19820337	148	-	0.02744169	0.33883401	-2.2005743	c(FBtr007221
19893805	861	-	0.00751519	0.17588584	-2.1938807	c(FBtr011346
20074578	881	+	0.10251308	0.56389718	-2.1389968	c(FBtr008456
16779210	118	+	0.02984102	0.35263232	-2.1206632	c(FBtr008090
15286060	1221	-	0.01036506	0.20117889	-2.1001028	c(FBtr030136
19900378	113	-	0.00384706	0.11811494	-2.0281172	FBtr0113464
11837970	275	-	1.25E-21	3.34E-18	-2.0230923	c(FBtr008727
11836647	102	-	0.00327037	0.10964509	-2.0174769	c(FBtr008727
19887823	170	-	0.0002227	0.02018335	-1.9949772	c(FBtr011346
13407248	91	+	0.12060403	0.59256358	-1.9853762	c(FBtr007584
17561771	169	+	0.03139212	0.36108966	-1.9214025	FBtr0074454
19962860	139	+	0.00238052	0.08858383	-1.9053501	c(FBtr029969
11107320	67	+	0.24195197	0.72960024	-1.8810822	c(FBtr008996
13471582	930	+	0.00597991	0.15238597	-1.8099038	c(FBtr007580
11846822	1324	-	2.70E-15	2.33E-12	-1.7956786	c(FBtr030279
11838971	309	-	1.03E-28	1.16E-24	-1.7640525	c(FBtr008727
16915587	1051	+	0.1085197	0.57153808	-1.7087889	c(FBtr030277
8738447	385	-	0.25200229	0.73904011	-1.6855114	c(FBtr007659
14896449	385	+	0.29784101	0.77359804	-1.6304969	c(FBtr008657
16651148	1279	-	0.16619511	NA	-1.6172922	c(FBtr030135
19895289	157	-	0.17380692	0.66300185	-1.6008004	c(FBtr011346
11668584	95	-	1.23E-06	0.00025547	-1.5901923	c(FBtr010038
11872872	485	-	0.00279415	0.09968464	-1.5861346	c(FBtr008727
19891234	240	-	0.01412201	0.23484692	-1.582808	c(FBtr011346
11842278	872	-	5.47E-05	0.00682439	-1.5796595	c(FBtr030279
16788766	746	+	0.05400852	0.44572697	-1.5646113	c(FBtr008089
10997096	750	-	0.3116315	0.7825404	-1.5424294	c(FBtr030214
11650775	706	-	0.24119103	0.72960024	-1.5180475	c(FBtr010038
19900265	19	-	0.83685287	0.97933485	-1.5113446	c(FBtr011346
16904691	325	+	0.1620348	0.65181404	-1.4228579	c(FBtr030277
11837629	519	-	5.54E-20	8.89E-17	-1.4069323	c(FBtr008727
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11840725	385	-	8.66E-13	6.08E-10	-1.3726125	c(FBtr030279
19889923	140	-	0.00037076	0.02976171	-1.3352894	c(FBtr011346
1395246	58	-	0.53859613	0.89764228	-1.333965	c(FBtr030201
19901384	9	-	0.58700942	0.91974474	-1.305325	FBtr0113464
19816639	1637	-	0.15934535	0.65094212	-1.2925831	FBtr0072216
11107325	5	+	0.3995076	0.82925534	-1.2763108	c(FBtr008996
11702450	217	-	0.75581346	0.96608641	-1.2122478	c(FBtr011104
2128760	1683	-	0.03926145	0.39276371	-1.2112954	FBtr0110858

746655	361	+	0.46945767	NA	-1.1756402	c(FBtr030134
8628181	80	+	0.26315578	0.74854845	-1.1734381	c(FBtr008956
8726388	431	-	0.14726924	0.63361857	-1.164616	c(FBtr007659
11117247	162	+	0.2337791	0.72374919	-1.1532297	c(FBtr008995
19887599	141	-	0.00501413	0.13900199	-1.1522004	c(FBtr011346
24656399	176	-	0.63472808	0.93186126	-1.1290563	c(FBtr008535
11835111	681	-	9.47E-12	6.26E-09	-1.1276386	c(FBtr008727
11126544	76	+	0.24401357	0.73143536	-1.1195715	c(FBtr008996
11126795	63	+	0.06411434	0.48259678	-1.1128296	c(FBtr008996
16775853	171	+	0.32767273	0.79074971	-1.1021144	c(FBtr008089
11125069	71	+	0.34168279	0.79938362	-1.0590552	c(FBtr008996
11136021	34	+	0.00036357	0.02939458	-1.0410008	c(FBtr008308
4772577	202	+	0.64590706	0.93398287	-1.0214635	c(FBtr008863
17563270	487	+	0.56677496	0.91134884	-1.021293	FBtr0074454
4772307	420	+	0.38632019	0.81938784	-1.0149976	c(FBtr008863
11140920	86	+	0.27508435	0.75886157	-1.0138198	FBtr0083080
9790626	99	-	0.49432522	0.87879962	-0.9741352	FBtr0076374
8630698	160	+	0.0966919	0.54988879	-0.9696772	c(FBtr008956
8629820	252	+	0.31320201	0.78303987	-0.9685313	FBtr0089564
11122430	118	+	0.06506799	0.48424532	-0.9681115	c(FBtr008996
19641115	272	+	0.14008483	0.62126723	-0.9387781	FBtr0074793
681557	439	+	0.66367988	NA	-0.9322467	FBtr0070139
16768884	301	+	0.38691324	0.81996807	-0.9009769	c(FBtr008089
16773380	104	+	0.27839578	0.76108663	-0.8922046	c(FBtr030182
11128944	70	+	0.00494283	0.13817798	-0.8837335	c(FBtr008996
7964270	1368	+	0.20925797	0.69942983	-0.855386	FBtr0071105
8631773	407	+	0.14015705	0.62133527	-0.8398115	c(FBtr008956
10997828	171	-	0.44775603	0.85697258	-0.8398038	c(FBtr008303
2077962	1061	-	0.06113985	0.47308989	-0.8325973	FBtr0072849
13407700	264	+	0.15043707	0.63989846	-0.7973648	c(FBtr007584
4122423	268	-	0.38200001	0.81723132	-0.7905122	FBtr0073270
10998785	220	-	0.45852073	0.8628772	-0.7876795	FBtr0302145
2138082	756	-	0.1903151	0.68036716	-0.787061	c(FBtr011085
18008679	36	-	0.3425591	0.79938362	-0.7831043	c(FBtr007452
15286310	250	-	0.30387208	NA	-0.7784481	c(FBtr030136
789366	979	+	0.01678837	0.25553807	-0.7534841	c(FBtr030134
4775602	2962	+	0.11964035	0.59064133	-0.749328	c(FBtr008863
11669411	134	-	0.202081	0.69089937	-0.7374197	c(FBtr010038
5980098	159	-	0.41650399	0.84152979	-0.7334875	FBtr0079235
2123679	83	-	0.43977498	0.85431158	-0.7284818	c(FBtr011085
19883345	280	-	0.2061843	0.69519927	-0.7277454	c(FBtr011346

8631295	39	+	0.21284524	0.70337222	-0.7211366	c(FBtr008956
8790326	227	+	0.0640923	0.48259678	-0.7128208	c(FBtr030258
16769602	144	+	0.22386972	0.7154482	-0.7124889	c(FBtr008089
2075684	5208	-	0.58382371	NA	-0.7087277	FBtr0072849
23483677	393	-	0.47758997	0.86932375	-0.7053987	c(FBtr008519
1924401	154	-	0.06966113	0.49600634	-0.6925893	c(FBtr007034
10998552	231	-	6.04E-07	0.00014148	-0.6901606	c(FBtr008303
4769921	113	+	0.20840173	0.69917594	-0.6878666	c(FBtr008863
13406538	122	+	0.76386555	0.96825081	-0.6791503	c(FBtr007584
17561530	197	+	0.21290892	0.70337222	-0.6778586	FBtr0074454
16771141	99	+	0.30898779	0.78172102	-0.667936	c(FBtr008089
8791819	599	+	0.47031583	0.86518403	-0.6636189	c(FBtr030258
4762367	153	+	0.66803384	0.9409014	-0.6539092	c(FBtr008863
8107438	201	+	0.53955059	0.89764676	-0.6526339	c(FBtr007957
2047734	877	-	0.55750631	0.90673969	-0.6365633	FBtr0072849
19814704	226	-	0.67496366	0.94273318	-0.6171548	FBtr0072215
16770974	64	+	0.28029276	0.76306444	-0.6109248	c(FBtr008089
19898538	93	-	0.78688458	0.97057721	-0.6072983	c(FBtr011346
19642491	1209	+	0.18221961	0.67427856	-0.5915992	FBtr0074793
11002155	21	-	0.24767788	0.73440098	-0.5884641	c(FBtr030214
16900256	334	+	0.09257631	0.54111311	-0.5805919	c(FBtr030278
9786499	235	-	0.17561381	0.66435626	-0.5763736	FBtr0076374
1395349	103	-	0.97619386	0.99444368	-0.57426	FBtr0086075
11113543	498	+	0.70055061	0.94967152	-0.5693805	c(FBtr008996
19888066	182	-	0.51357262	0.8859545	-0.5285144	c(FBtr011346
19886848	582	-	0.04345354	0.40810895	-0.5259002	c(FBtr011346
14877371	91	+	0.63066751	0.93072114	-0.5235524	c(FBtr008657
18003603	101	-	0.00197033	0.08051854	-0.5197074	c(FBtr007452
4770904	346	+	0.56972994	0.91310788	-0.5125614	c(FBtr008863
792221	1043	+	0.12392771	0.59517078	-0.5089504	c(FBtr030134
15298021	712	-	0.27421637	0.75790544	-0.5031956	c(FBtr030136
25999053	1894	-	0.49807482	0.88050414	-0.4966521	c(FBtr008974
8747595	353	+	0.75007971	NA	-0.4904325	FBtr0302087
2129229	176	-	0.71113854	0.95350927	-0.4812953	c(FBtr011085
8782405	367	+	0.35926549	0.80590199	-0.4794705	c(FBtr030208
19887159	238	-	0.40991795	0.83571471	-0.4707553	c(FBtr011346
4755627	525	+	0.86654713	0.98174552	-0.4686635	c(FBtr008863
1394216	399	-	0.46344427	0.86371255	-0.4576308	c(FBtr030201
9785316	227	-	0.8675407	0.98194978	-0.4491298	FBtr0076374
19886190	701	-	0.00234912	0.08829952	-0.4398244	c(FBtr011346
14895990	77	+	0.77783136	0.96934445	-0.4388564	c(FBtr008657

16784329	79	+	0.68887274	NA	-0.4387943	c(FBtr008090
8627883	201	+	0.20430311	0.69408289	-0.4340322	c(FBtr008956
19820011	83	-	0.58154551	0.91744292	-0.4334831	c(FBtr007221
8083636	115	+	0.75777421	0.96624166	-0.4282285	c(FBtr007956
11267895	572	+	0.29646033	0.77294233	-0.4277887	FBtr0083143
11657056	4299	-	0.03568978	0.37617488	-0.4263934	FBtr0100388
24651423	1196	-	0.81047377	0.97540432	-0.4231045	c(FBtr008535
8779331	260	+	0.87893993	NA	-0.4217394	c(FBtr030208
8790921	132	+	0.46941304	0.86493941	-0.4170089	c(FBtr030258
14881564	141	+	0.57926658	0.91688064	-0.4162226	c(FBtr008657
7264408	263	-	0.13010266	0.60793916	-0.4104728	c(FBtr008240
8109458	1578	+	0.39222554	0.82420168	-0.4073212	c(FBtr007957
1921495	179	-	0.12374568	0.59517078	-0.3993994	c(FBtr007034
4757952	604	+	0.95455348	0.99323093	-0.3924519	c(FBtr008863
16914466	187	+	0.65379639	0.93547641	-0.3838421	c(FBtr030277
13474235	100	+	0.54317732	NA	-0.3816597	c(FBtr007580
14895744	141	+	0.79787632	0.97230749	-0.3737101	c(FBtr008657
19894923	136	-	0.88007737	NA	-0.3683122	c(FBtr011346
19900558	122	-	0.93803215	0.98908435	-0.3673166	FBtr0113464
11135987	73	+	0.70756257	NA	-0.3656174	FBtr0083078
2123480	181	-	0.62873465	0.92977466	-0.3533196	c(FBtr011085
14892388	279	+	0.6296169	0.92978117	-0.3474274	c(FBtr008657
18000964	44	-	0.02872262	0.34559398	-0.3468386	c(FBtr007452
16783911	79	+	0.01897348	0.27872416	-0.3394014	c(FBtr030182
11651094	240	-	0.88917294	0.98338373	-0.3332925	c(FBtr010038
2105084	230	-	0.67313295	0.94205081	-0.3258514	c(FBtr007284
19817140	118	-	0.2853713	0.76737285	-0.3250126	c(FBtr007221
13476621	1087	+	0.61143992	0.92692491	-0.3190653	c(FBtr007580
19883509	106	-	0.10847922	0.57153808	-0.314819	c(FBtr011346
16787557	41	+	0.54559968	0.9008888	-0.3142391	c(FBtr030182
19963131	160	+	0.41964158	0.84252872	-0.3027757	c(FBtr029969
7264609	108	-	0.64798015	0.93430838	-0.3001511	c(FBtr008240
16787580	23	+	0.55796911	0.90680234	-0.2992038	c(FBtr030182
5979704	293	-	0.59451411	0.920666	-0.2914798	c(FBtr007923
7263803	535	-	0.36320408	0.80921638	-0.2904289	c(FBtr008240
1929234	247	-	0.69232016	0.94787517	-0.2857477	c(FBtr007034
19887403	186	-	0.55192856	0.9041218	-0.2814075	c(FBtr011346
19900182	171	-	0.68878878	0.9470951	-0.2768129	c(FBtr011346
14882651	136	+	0.63773857	0.93221982	-0.2703048	c(FBtr008657
13489117	81	-	0.16761584	0.65706014	-0.2647916	c(FBtr007385
7266707	90	-	0.65708983	0.93615308	-0.2641372	c(FBtr008240

9781844	169	-	0.09915613	0.55559176	-0.2602433	FBtr0076374
11117085	418	+	0.74620607	0.96458505	-0.2590694	FBtr0089960
7264087	223	-	0.97944961	0.99460611	-0.2455256	c(FBtr008240
778790	300	+	0.95939774	NA	-0.2453004	c(FBtr030134
795305	303	+	0.59578997	0.92122835	-0.2449503	c(FBtr030134
8784400	716	+	0.64320906	0.93385454	-0.2436119	c(FBtr030208
21980290	553	+	0.82244187	0.97709472	-0.2372579	FBtr0078478
1924892	417	-	0.04565732	0.41885467	-0.2339609	c(FBtr007034
4769459	2098	+	0.73785805	0.96273021	-0.2262415	c(FBtr008863
19034503	60	+	0.42835708	0.84739512	-0.2196989	FBtr0081142
11123401	971	+	0.95492837	0.99323093	-0.2185148	c(FBtr008996
8732382	113	-	0.26568569	0.75208457	-0.2115043	c(FBtr007659
19983186	536	-	0.21260716	0.70337222	-0.2037973	FBtr0074910
11113045	325	+	0.98764156	0.99686688	-0.1987319	FBtr0089962
767455	354	+	0.85453719	NA	-0.1902463	c(FBtr030134
19889724	193	-	0.30220524	0.77614767	-0.1894163	c(FBtr011346
19816836	197	-	0.12210141	0.59256358	-0.1661127	c(FBtr007221
19890507	257	-	0.36530987	0.8096855	-0.158858	c(FBtr011346
8619610	302	+	0.4262239	0.84627282	-0.1524134	c(FBtr008956
14889294	698	+	0.89543017	0.98341079	-0.147789	c(FBtr008657
11110484	150	+	0.99164129	0.99758883	-0.142711	c(FBtr008996
20073364	4988	+	0.86835234	0.98194978	-0.142422	c(FBtr008456
1923959	86	-	0.79402646	0.97194164	-0.1406224	c(FBtr007034
16775381	171	+	0.77954704	0.96963795	-0.1383058	c(FBtr008090
19891646	167	-	0.87618661	0.9829797	-0.1362115	c(FBtr011346
19984279	31	-	0.18365416	0.6750434	-0.1344387	FBtr0074910
8780820	202	+	0.87261537	0.98249263	-0.1328332	c(FBtr030208
5973674	775	-	0.61854707	0.92875289	-0.1231761	c(FBtr007923
4759929	205	+	0.69129441	0.94787517	-0.1229601	c(FBtr008863
11651334	184	-	0.98660106	0.99635631	-0.1156394	c(FBtr010038
19891413	115	-	0.70716846	0.95172716	-0.0895639	c(FBtr011346
16770837	381	+	0.54664595	0.90182138	-0.0880507	c(FBtr008089
13492209	3	-	0.85529934	NA	-0.0845669	c(FBtr030192
769645	1713	+	0.90779198	0.98577212	-0.0735371	c(FBtr030134
19983404	156	-	0.27456796	0.75831769	-0.0686075	FBtr0074910
8727955	616	-	0.33621376	0.79579741	-0.0683314	c(FBtr007659
25999116	63	-	0.99813213	1	-0.0657006	FBtr0089747
11002134	49	-	0.0317073	0.36175289	-0.0589072	c(FBtr030214
2069740	7287	-	0.70216504	0.94981784	-0.0566918	FBtr0072849
14894076	783	+	0.93406071	0.98813652	-0.0544157	c(FBtr008657
4766122	480	+	0.88337915	0.98338373	-0.0538027	c(FBtr008863

24651675	189	-	0.83940218	0.97941171	-0.0525985	c(FBtr008535
2129786	207	-	0.78499924	0.97056505	-0.0470794	c(FBtr011085
2076690	61	-	0.78040033	0.9700408	-0.0423531	FBtr0072849
18006695	101	-	0.93747708	0.98908435	-0.0391279	FBtr0074520
796707	1167	+	0.61261709	0.92699353	-0.0339182	c(FBtr030134
19890939	369	-	0.96833375	0.99342596	-0.0299306	c(FBtr011346
11265768	59	+	0.06888794	0.4955107	-0.026836	FBtr0083143
2126670	1432	-	0.89581952	0.98341079	-0.0221493	c(FBtr011085
4771830	111	+	0.882101	0.98317126	-0.0219402	c(FBtr008863
8732594	128	-	0.38347158	0.81882076	-0.0134917	c(FBtr007659
19885427	133	-	0.38519858	0.81891309	-0.0100411	c(FBtr011346
8770417	321	+	0.89653012	NA	-0.0087319	c(FBtr030208
19892889	106	-	0.90535229	0.98560896	-0.0080002	c(FBtr011346
25999134	18	-	0.84884196	0.98098268	-0.0037318	c(FBtr008974
2041333	558	-	0.68526266	0.94632759	0.00137399	FBtr0072849
16649497	1830	-	0.63338136	0.93186126	0.00371001	c(FBtr030135
9783773	218	-	0.8656524	0.98149639	0.00886996	FBtr0076374
4115646	342	-	0.96104019	0.99323093	0.01040686	FBtr0073270
2051996	4151	-	0.76287519	0.96825081	0.01701095	FBtr0072849
8620209	149	+	0.60646215	0.92412516	0.02191994	c(FBtr008956
16786814	906	+	0.05915344	0.46712981	0.02752921	c(FBtr008089
682077	406	+	0.62599332	0.92969483	0.02771127	FBtr0070139
7962816	1224	+	0.37077017	0.81189045	0.02918275	FBtr0071105
8617783	311	+	0.90799602	NA	0.03007186	c(FBtr008956
8089356	172	+	0.84670866	0.98098268	0.03345598	c(FBtr007956
11000065	207	-	0.1577551	0.64915848	0.04958626	c(FBtr030214
3197061	2563	+	0.00653848	0.16328755	0.05043194	FBtr0073040
8083521	100	+	0.93267609	NA	0.06096029	c(FBtr007956
8779537	138	+	0.87777648	0.9829797	0.06178549	c(FBtr030208
7266357	751	-	0.84250182	0.98038306	0.06452759	c(FBtr008240
26000273	68	-	0.87790336	0.9829797	0.0660078	c(FBtr008974
5980481	273	-	0.97585075	NA	0.07080328	FBtr0079234
1919732	606	-	0.52926071	0.89320195	0.08163478	c(FBtr007034
794937	127	+	0.98970093	0.99724371	0.08290553	c(FBtr030134
19889473	993	-	0.88245993	0.98317126	0.08356954	c(FBtr011346
18000065	480	-	0.08401116	0.5240416	0.09135657	c(FBtr007452
1920942	1135	-	0.8253267	0.97787708	0.09621166	c(FBtr007034
23484277	87	-	0.00013948	0.01451389	0.10117861	c(FBtr008519
8733551	872	-	0.91876759	0.98577212	0.10507588	c(FBtr007659
19041541	2501	+	0.93750018	0.98908435	0.1115103	FBtr0081142
8780444	723	+	0.77820125	0.96934445	0.11402225	c(FBtr030208

8778699	224	+	0.91316218	NA	0.11644587	c(FBtr030208
8783608	339	+	0.93931548	0.9891225	0.11695428	c(FBtr030208
3675037	299	+	0.972242	0.9937532	0.12634305	FBtr0088930
11138768	647	+	0.6825057	0.94502274	0.12853292	c(FBtr008307
11652757	130	-	0.59472266	0.920666	0.12961105	c(FBtr011104
19895069	86	-	0.91583866	NA	0.1322955	c(FBtr011346
18007414	124	-	0.57322708	0.91478642	0.13303995	c(FBtr007452
2135750	1426	-	0.80268749	0.97372647	0.13390465	c(FBtr011085
19816954	118	-	0.85226917	0.98098268	0.1344161	c(FBtr007221
4771427	301	+	0.51320718	0.88593277	0.13783425	c(FBtr008863
18010855	116	-	0.89340538	0.98341079	0.14278758	c(FBtr007452
2087184	5496	-	0.98825973	0.99702262	0.14402879	FBtr0072849
16899850	4373	+	0.97501377	0.99406459	0.15216212	FBtr0302786
13488083	474	-	0.60568708	0.92412516	0.16025533	c(FBtr007385
11132847	785	+	0.82380981	0.97766114	0.18241696	FBtr0089957
8782617	147	+	0.96298603	0.99323093	0.18304381	c(FBtr030208
4757293	1423	+	0.32642744	0.79074971	0.18502169	c(FBtr008863
8727230	842	-	0.18669411	0.67657802	0.18541146	c(FBtr007659
9787862	152	-	0.69253412	0.94787517	0.18991283	FBtr0076374
14886414	486	+	0.85227216	0.98098268	0.19210838	FBtr0114622
4115142	854	-	0.62846362	0.92977466	0.19257838	FBtr0073270
774854	891	+	0.83211455	0.97873983	0.19772381	c(FBtr030134
4765134	2273	+	0.64376031	0.93385454	0.20543166	c(FBtr008863
2132584	1792	-	0.81007488	0.97540432	0.20549581	c(FBtr011085
8107880	133	+	0.46302709	0.86371255	0.2060624	c(FBtr007957
16647587	1366	-	0.91353841	0.98577212	0.21016223	c(FBtr030135
19885232	1652	-	0.83615034	0.97913497	0.21456668	c(FBtr011346
8755985	3446	+	0.40389456	0.83150544	0.21893895	FBtr0302087
16787516	438	+	0.92129637	0.98577212	0.23004025	c(FBtr008090
15311302	204	-	0.8639945	NA	0.23943975	c(FBtr030136
8731187	1067	-	0.79026001	0.97116621	0.24066579	c(FBtr007659
11670749	157	-	0.35083282	0.80233459	0.24419931	c(FBtr010038
19892727	182	-	0.990453	0.99747425	0.25447444	c(FBtr011346
11663485	205	-	0.6127854	0.92699353	0.26218689	FBtr0301314
2045116	1668	-	0.65607077	0.93587349	0.264866	FBtr0072849
2150089	349	-	0.64221662	0.9338062	0.26513481	c(FBtr011085
11690992	127	-	0.67006112	0.94140044	0.26671483	c(FBtr010038
11111076	126	+	0.12172877	0.59256358	0.26836059	c(FBtr008996
16914151	170	+	0.85125027	0.98098268	0.28782637	c(FBtr030277
19894723	185	-	0.79007446	NA	0.29049251	c(FBtr011346
2040572	394	-	0.97316673	0.99406459	0.2917788	FBtr0072849

20061992	244	+	0.79084793	0.97116621	0.2921916	c(FBtr008456
1922060	93	-	0.88364929	0.98338373	0.29322041	c(FBtr007034
13408820	1055	+	0.84648081	0.98098268	0.29664373	c(FBtr007584
13489275	93	-	0.67922682	0.94380418	0.29864013	c(FBtr007385
9787103	477	-	0.5598014	0.90801289	0.29952223	FBtr0076374
19035865	105	+	0.96203612	0.99323093	0.31328905	FBtr0081142
19817621	116	-	0.27222809	0.7559425	0.31509672	c(FBtr007221
21979375	951	+	0.80491375	0.97405376	0.3192002	FBtr0078478
19890185	212	-	0.8327119	0.97873983	0.33653265	c(FBtr011346
13490411	3	-	0.90385436	0.98511447	0.34303749	c(FBtr007385
3675640	545	+	0.56205866	0.90959831	0.34594876	FBtr0088930
788316	9471	+	0.11854906	0.58871158	0.35360273	c(FBtr030134
11666051	195	-	0.22241901	0.71340388	0.35560073	c(FBtr010038
794743	101	+	0.63370334	0.93186126	0.36005672	c(FBtr030134
13489571	219	-	0.74873424	0.96458505	0.36912201	c(FBtr007385
4760740	757	+	0.37617635	0.81399572	0.3834119	c(FBtr008863
11002015	110	-	0.62410987	0.92969483	0.39325526	c(FBtr030214
16783661	887	+	0.39765105	0.82832298	0.41034486	c(FBtr008089
2122960	351	-	0.71911182	0.95729867	0.41243492	c(FBtr011085
13494150	48	-	0.72731806	0.96062146	0.42150012	c(FBtr007385
2094179	172	-	0.88129683	NA	0.43009951	c(FBtr007284
14885928	1296	+	0.09304636	0.54184537	0.43215924	c(FBtr008657
11139008	178	+	0.01372225	0.23087555	0.43982696	c(FBtr008307
19888421	302	-	0.65431796	0.93547641	0.44002082	c(FBtr011346
2104792	1365	-	0.98676173	0.9964263	0.44726603	c(FBtr007284
11871511	14931	-	0.02664123	0.33463692	0.45262047	c(FBtr008727
5976782	172	-	0.36635146	0.80976053	0.45894964	c(FBtr007923
11670971	152	-	0.1994147	0.68616729	0.46870155	c(FBtr010038
19817441	237	-	0.40069613	0.83032879	0.47585341	c(FBtr007221
777585	2673	+	0.41395072	0.83931002	0.47762703	c(FBtr030134
25999536	243	-	0.32316496	0.79010517	0.48192881	c(FBtr008974
2093947	187	-	0.72412309	NA	0.48241296	c(FBtr007284
793085	57	+	0.33841603	0.7969178	0.48427021	c(FBtr030134
13490781	370	-	0.62815963	0.92969483	0.48917546	c(FBtr007385
16777439	590	+	0.69816872	0.94929573	0.4944381	c(FBtr008089
7958492	620	+	0.24901592	0.735402	0.51005561	FBtr0071105
11267262	941	+	0.27000714	0.75419155	0.52452962	FBtr0083143
1395368	19	-	0.35255822	0.80333521	0.53572032	c(FBtr030201
9786034	628	-	0.11166674	0.57939232	0.53945008	FBtr0076374
19895668	312	-	0.34358919	0.80009433	0.54093203	c(FBtr011346
2042015	306	-	0.81002281	0.97540432	0.54604167	FBtr0072849

19964901	321	+	0.75836503	0.96627054	0.54908912	FBtr0299697
23484643	306	-	0.01728049	0.25997074	0.55023758	c(FBtr008519
4762555	116	+	0.74758416	0.96458505	0.55376253	c(FBtr008863
2103363	2799	-	0.6013469	0.92359424	0.562324	c(FBtr007284
16895291	63	+	0.6528203	0.93547641	0.56618856	c(FBtr030278
11120968	134	+	0.71354237	0.95461776	0.56648854	c(FBtr008996
1936344	265	-	0.89758638	NA	0.5715064	c(FBtr007034
8779015	222	+	0.72631205	NA	0.57773019	c(FBtr030208
16785841	1176	+	0.82349465	0.97764978	0.58603226	c(FBtr008089
20065070	1987	+	0.41432154	0.83942754	0.59310486	c(FBtr008456
8105809	118	+	0.73313115	NA	0.59537563	c(FBtr007957
11662262	330	-	0.13857314	0.6184499	0.6239579	c(FBtr011104
11115161	1187	+	0.12547075	0.59874321	0.64149364	c(FBtr008996
4753564	204	+	0.37488855	0.81363572	0.65674713	c(FBtr008863
13474313	78	+	0.98117915	NA	0.6571048	c(FBtr007580
1393763	21	-	0.50790687	0.88425366	0.66565964	c(FBtr030201
8089736	343	+	0.85816552	0.98098268	0.68294842	c(FBtr007957
2041497	105	-	0.53230741	0.894766	0.69450438	FBtr0072849
8620830	304	+	2.23E-05	0.00338478	0.69941991	c(FBtr008956
24652596	633	-	0.41004902	0.83571471	0.71665482	c(FBtr008535
19640342	253	+	0.14094952	0.62224775	0.72132798	FBtr0074793
10999858	156	-	0.78826962	0.97101546	0.73956089	FBtr0083031
7955758	79	+	0.51643754	NA	0.74132113	FBtr0071105
16774857	408	+	0.35083397	0.80233459	0.7429492	c(FBtr008089
16895168	2602	+	0.11121386	0.57939232	0.75441534	c(FBtr030278
18000855	142	-	0.66040004	0.93717735	0.75498024	c(FBtr007452
17561265	6244	+	0.01475601	0.23834948	0.77199997	FBtr0074454
13496536	86	-	0.48775386	0.87543111	0.80141713	c(FBtr007385
16782553	210	+	0.59851418	0.9220154	0.80927382	c(FBtr008089
11664791	109	-	0.12835169	0.60418278	0.81824315	c(FBtr010038
1921904	351	-	0.06023948	0.47015035	0.83907719	c(FBtr007034
4750515	168	+	0.44540391	0.8553399	0.87512932	c(FBtr008863
20058696	1251	+	0.28046683	0.76316857	0.90079785	c(FBtr008456
19819852	2172	-	0.06578274	0.48510732	0.90516332	c(FBtr007221
19899956	166	-	0.41811168	0.8418597	0.90978567	c(FBtr011346
752859	674	+	0.32811299	0.79113358	0.97908988	c(FBtr030134
11001905	229	-	0.56531293	0.91030043	1.01273754	FBtr0083032
24651896	165	-	0.78617079	0.97057721	1.0406546	c(FBtr008535
13491437	24	-	0.69360905	NA	1.04827615	c(FBtr007385
13409554	460	+	0.25484526	0.74264985	1.04935269	c(FBtr007584
1391153	212	-	0.33619159	0.79579741	1.05950872	c(FBtr030201

11139742	430	+	0.07716045	0.5078793	1.07438104	FBtr0083080
13409027	151	+	0.41400619	0.83931002	1.09831896	c(FBtr007584
4767300	287	+	0.22071181	0.71213301	1.10315611	c(FBtr008863
19894477	561	-	0.00918153	0.19505101	1.12218681	c(FBtr011346
23485678	28	-	0.2460344	0.73339414	1.13989702	c(FBtr008519
14875196	351	+	0.43870618	NA	1.20565827	c(FBtr008657
7274081	1241	-	0.28449836	0.76677272	1.21956853	c(FBtr008240
23485921	90	-	0.22066349	0.71213301	1.23185793	c(FBtr008519
16780813	264	+	0.67566802	0.94273318	1.25430408	c(FBtr008089
2043106	1016	-	0.07167749	0.49843995	1.29306304	FBtr0072849
4761959	1160	+	0.00287406	0.10030714	1.3045657	c(FBtr008863
8756225	76	+	0.29022524	0.76841142	1.31688613	FBtr0302087
8775757	110	+	0.29022524	0.76841142	1.31688613	c(FBtr030208
2043382	142	-	0.10513565	0.56640192	1.34220085	FBtr0072849
19983734	264	-	0.2481595	0.73440098	1.35216308	FBtr0074910
4755038	389	+	0.44005447	0.85431158	1.37249426	c(FBtr008863
2141532	1308	-	0.13502042	0.61320898	1.37877339	c(FBtr011085
789771	342	+	0.13977378	0.62120758	1.40535638	c(FBtr030134
13475469	1156	+	0.08222025	0.52019203	1.40878509	c(FBtr007580
16652621	75	-	0.74503833	0.96458505	1.42563399	c(FBtr030135
754590	45	+	0.42872623	NA	1.44864422	c(FBtr030134
2100484	5559	-	0.0072113	0.17169607	1.44909292	c(FBtr007284
11661471	151	-	3.87E-05	0.0051786	1.45185886	c(FBtr010038
19963806	103	+	0.37480265	0.81363572	1.46020579	FBtr0299697
20068266	265	+	0.31085908	0.78215772	1.49336195	c(FBtr008456
11004211	210	-	0.50195472	0.88278872	1.49351148	c(FBtr030214
13493813	320	-	0.26146168	0.74831648	1.4953189	FBtr0073853
16912802	232	+	0.80408793	NA	1.55810426	c(FBtr030278
11652340	910	-	0.16636457	0.6565378	1.57640832	FBtr0301313
19898306	2083	-	2.94E-11	1.57E-08	1.68076974	c(FBtr011346
8088453	148	+	0.38529195	NA	1.71226634	c(FBtr007957
2106734	1585	-	0.76746748	0.96854126	1.71952772	c(FBtr007284
2061531	8877	-	0.0293214	0.34888008	1.72699556	FBtr0072849
18007608	129	-	0.10762384	0.57109443	1.734945	c(FBtr007452
15288860	1838	-	0.41837936	0.8418597	1.76017407	c(FBtr030136
15298578	484	-	0.43952522	0.85431158	1.78274677	c(FBtr030136
2134260	161	-	0.29091138	0.76915067	1.83215522	c(FBtr011085
11004902	142	-	0.46741824	0.86467899	1.83705765	c(FBtr030214
19640764	90	+	0.09929718	0.55559176	1.8682843	FBtr0074793
16906498	175	+	0.2827891	NA	1.87648428	c(FBtr030277
11131703	804	+	1.88E-17	1.92E-14	1.95459695	FBtr0089959

2094860	288	-	0.23759161	0.72713901	2.00599888	c(FBtr007284
11663012	750	-	3.06E-05	0.00429677	2.0310628	c(FBtr030131
4766860	138	+	0.00578709	0.14968123	2.03631984	c(FBtr008863
7266968	124	-	0.00013252	0.0140621	2.05286426	c(FBtr008240
4754586	78	+	0.1856917	0.67531746	2.07556325	c(FBtr008863
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8778405	185	+	0.20848359	0.69917594	2.17526812	c(FBtr030208
2094507	232	-	0.10468221	0.56628656	2.26781126	c(FBtr007284
4758187	100	+	0.13289182	0.60960735	2.29170621	c(FBtr008864
11001585	239	-	0.72273426	0.95924754	2.33116742	c(FBtr030214
14895251	160	+	0.20283865	0.69164485	2.34531482	c(FBtr008657
11847922	173	-	0.19552978	0.68342686	2.39534057	c(FBtr008727
2114466	341	-	0.07261502	0.50094999	2.43152484	c(FBtr007284
8107173	108	+	0.29025921	NA	2.47629728	c(FBtr007957
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766697	700	+	0.07479043	NA	2.72742313	c(FBtr030134
8778157	59	+	0.08723664	0.52704476	2.73062991	c(FBtr030208
11873270	292	-	0.18715117	0.67706184	2.85435467	c(FBtr008727
11847142	227	-	0.20789595	0.69887366	3.02371366	c(FBtr030278
2139942	342	-	0.0149903	0.23918626	3.04121593	c(FBtr011085
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11855805	1707	-	1.00E-06	0.00021677	3.44650153	c(FBtr030279
11667163	394	-	2.04E-11	1.21E-08	3.65098369	c(FBtr011104
11853075	759	-	5.85E-06	0.00102728	4.00458846	c(FBtr008727
11854035	783	-	0.00032542	0.02729131	4.19221084	c(FBtr008727
16777748	118	+	6.90E-05	0.00824938	4.53279811	FBtr0080906
19963965	97	+	1	NA	4.68157746	FBtr0299697
18007955	183	-	6.36E-14	4.76E-11	5.85620839	FBtr0074524
13488941	79	-	2.01E-07	5.37E-05	6.30498158	c(FBtr030191
14878838	299	+	0.25776619	NA	7.38868902	FBtr0086573
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20065202	65	+	0.47902211	NA	8.15803575	c(FBtr008456
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7959565	85	+	0.1540777	NA	8.25135951	FBtr0071105
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8627549	182	+	0.37431102	NA	8.81775754	FBtr0301155
8623369	62	+	0.37431102	NA	8.81775754	c(FBtr008956
19038754	670	+	0.25354057	NA	8.82023915	FBtr0081142
1395371	3	-	0.12756574	NA	9.21218228	FBtr0086075

20065479	216	+	0.20686032	NA	9.37185415	c(FBtr008456
16649798	244	-	0.14248233	NA	9.88923517	c(FBtr030135
19965746	786	+	0.02342206	0.31113139	10.0401828	FBtr0299697
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11113758	215	+	0.20031116	NA	10.4312443	FBtr0089962
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2124613	432	-	0.04109869	NA	11.0569798	c(FBtr011085
8623735	119	+	0.02948672	NA	11.1088603	c(FBtr008956
11842799	416	-	0.55368564	NA	11.1582897	FBtr0087274
752091	403	+	0.0905952	NA	11.6665595	c(FBtr030134
11871791	213	-	0.44257535	NA	11.9618184	c(FBtr008727
11844406	94	-	0.44257535	NA	11.9618184	FBtr0302789
758535	174	+	0.0276665	NA	12.4536485	c(FBtr030134
772095	900	+	0.0183528	NA	12.4834272	c(FBtr030134
19821070	11	-	0.37020469	NA	13.6234549	c(FBtr007221
19821185	115	-	0.37020469	NA	13.6234549	FBtr0072215
19821059	278	-	0.37020469	NA	13.6234549	c(FBtr007221
11872250	92	-	0.13517361	NA	13.7277813	c(FBtr008727
18006071	101	-	0.12789306	NA	15.1594735	FBtr0074521
2079676	304	-	0.28355158	NA	16.0923833	FBtr0072849
18008761	82	-	0.03881479	NA	16.1208587	c(FBtr007452
11660758	213	-	0.1505589	NA	17.6683818	c(FBtr011104
15298776	112	-	0.32478358	NA	20.8997567	c(FBtr030136
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15311548	246	-	0.1628714	NA	21.8541466	c(FBtr030136

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Supplementary Table 2

Related to Figure 5B and associated parag

Tab Name
Perseus output
Downregulated
Upregulated

graphs in the main text

Data Summary
This is a processed data spreadsheet presenting the mass spectrometry data used to generate Figure 5B. IFM samples are from 1 d adult control (w1118) and mutant (*bruno1-M2)* flies. Important columns are the transformed intensity values for each of the 4 replicates for each sample, the t-test statistic and significance, peptide IDs and corresponding gene names and Flybase IDs. Signifance was calculated using standard settings in Perseus (FDR<.05). There are 1859 proteins/peptides detected, of which 524 (28%) are significantly different between the samples.
These are ALL the 252 proteins/peptides from the Perseus output that are downregulated in *bruno1-M2* mutant IFM. As the Flybase IDs and gene names are outdated, we additionally provide the current Flybase gene ID and gene name.
These are ALL the 272 proteins/peptides from the Perseus output that are upregulated in *bruno1-M2* mutant IFM. As the Flybase IDs and gene names are outdated, we additionally provide the current Flybase gene ID and gene name.

Please note that the sarcomere proteins highlighted in red in Figure 5B are present in the above lists. The list of genes considered part of the sarcomere is available in one of the tabs in Supplementary Table 1.

w-1 (1day)	w-2 (1day)	w-3 (1day)	w-4 (1day)	M2-1 (1day)	M2-2 (1day)	M2-3 (1day)
#!{Type}E	E	E	E	E	E	E
24.8885994	24.9457493	24.8545704	25.0234795	20	20	20
20	20	20	20	27.1160507	27.364111	27.5332604
26.90242	26.9655399	26.8890209	26.5702591	20	20	20
20	20	20	20	24.8371601	24.9280891	24.6916294
24.83634	25.0605202	24.8150902	24.6943398	20	20	20
20	20	20	20	26.0748806	26.5127506	26.2648792
20	20	20	20	24.6681194	24.9436493	25.0079594
32.2522011	32.552681	32.4010811	31.9355106	22.7755909	22.7462196	22.6110191
20	20	20	20	25.2111092	24.7678509	24.8453198
25.4080505	25.63661	25.7352409	25.1542893	20	20	20
20	20	20	20	27.1751194	27.3494206	28.0254898
20	20	20	20	27.1061993	27.3318501	26.42696
26.7520008	26.5650597	25.9916592	26.1550503	20	20	20
25.1935501	25.2240601	24.6317902	24.9060993	20	20	20
20	20	20	20	23.80686	23.3186607	23.3528595
20	20	20	20	25.0769997	24.8748303	24.9685993
30.5676498	31.1985893	32.3571205	31.7843304	20	20	20
20	20	20	20	24.8737106	24.2446709	24.2469196
20	20	20	20	24.9849796	24.6160507	24.20187
20	20	20	20	24.7280102	25.1896706	24.7681999
20	20	20	20	25.0446892	25.2392197	24.5296402
20	20	20	20	24.9537602	25.4035702	25.0497208
20	20	20	20	26.7471409	27.4504204	27.2995491
25.4315395	24.7437096	25.0941391	25.6801395	20	20	20
20	20	20	20	25.2041893	24.4529991	24.42066
20	20	20	20	23.1467609	22.9218292	23.3284092
36.1745911	36.3953018	36.1845512	36.0817299	29.2955494	28.6293697	28.0130806
20	20	20	20	24.8668404	24.1539097	24.1096497
20	20	20	20	25.5887203	26.2795391	25.5433903
30.2343197	29.8996601	29.5859394	29.6102409	26.3005104	25.8727493	26.4755707
20	20	20	20	23.9071102	24.1380596	23.8107796
32.810669	32.7544403	32.7030182	32.7619095	33.4362602	33.3461189	33.4744797
20	20	20	20	24.9359798	24.2667809	24.1914406
20	20	20	20	23.8961506	24.7993202	25.1311207
30.92132	30.9603005	31.1235504	30.9899006	30.1361408	29.9747295	30.1145802
20	20	20	20	26.7184296	28.3998699	27.2645493
30.77038	30.6791706	30.5885296	30.5744305	28.538971	29.0028706	28.9289208
30.1960106	30.7024803	29.762991	29.8250198	21.6847	20.97155	22.9844894
20	20	20	20	23.7890492	24.0529995	25.1750107

31.4569397	31.3210907	31.4014092	31.3483105	33.4991684	33.7047081	33.5587616
25.2413292	24.1243191	25.4797897	24.2934094	20	20	20
29.0232391	29.4768391	29.1703796	29.2021408	27.5904198	27.3209591	27.4001503
22.8798904	22.2066994	22.4286709	23.0448208	25.7500095	25.3609505	25.4684906
20	20	20	20	25.4481506	24.8090191	23.9017792
23.4460697	24.6928005	23.6447105	24.4457493	20	20	20
28.3757095	28.2632504	28.6356392	28.5489597	29.7269707	29.6346397	29.75667
20	20	20	20	24.5731697	23.9649906	23.3306007
20	20	20	20	27.0827408	25.3524208	25.7731609
20	20	20	20	22.9005299	22.8139801	23.4698601
33.9989204	34.0633507	34.1100807	33.8727112	32.8092499	32.5471993	32.7471314
30.3727493	30.3932495	30.4290199	30.3952999	30.1083698	30.0507698	29.9812794
29.1144409	29.41008	29.2996197	28.7900505	27.1934795	27.2716904	27.4648991
27.0281296	26.9744301	27.03475	26.9892292	27.8876209	27.70438	27.6026497
28.1491909	27.9093094	27.8760796	27.9644394	27.0748997	27.2399101	27.1201096
24.4867706	24.7705193	24.3213406	24.7553196	26.9841404	27.4578705	27.7617397
26.1782093	26.2338009	26.7185593	26.6945801	29.1848297	29.5387096	29.1482906
30.7551708	30.5482101	30.6057606	30.6477909	29.9176903	29.6201897	29.6705093
34.2623406	34.738369	34.3710709	34.4756317	32.9493713	33.1207008	33.2165718
33.2816811	33.4835205	33.1947899	33.1091385	31.5151196	31.69133	31.163271
30.9489307	30.6355591	30.7419796	30.8156605	30.1190491	29.9575405	30.0380001
28.8419991	28.7544899	28.6840191	28.8832607	27.7305908	27.6941204	27.6361008
28.4805107	28.3951702	28.3971291	28.3229408	27.3583393	27.4799309	27.6275597
29.2655106	29.1814194	29.2374191	29.3296509	28.6543102	28.3606396	28.3123303
26.5453491	26.4146709	26.5824795	26.2749901	27.1434593	27.3139801	27.1617298
28.48316	28.1806393	28.6683807	28.1967602	27.3258591	27.2166901	27.3902607
26.1808395	25.8912907	25.8640995	25.6966	27.0753098	26.8809891	27.3394299
23.9117794	24.5293407	25.1996994	24.5512199	27.6433392	27.1985397	26.7619209
28.5140095	28.4278202	28.3218708	28.5425892	27.7407894	27.512991	27.3402805
28.9592495	28.9463406	28.9182396	28.6542397	28.0718403	28.1714497	28.2034493
27.8574505	27.91222	27.9038601	27.7614803	27.3377304	27.0032501	27.1540299
34.8016014	35.1000099	35.1851196	35.1473999	34.1189194	34.2705803	33.87463
26.2396908	25.9769898	26.0953503	25.8408394	24.9901905	25.1742096	24.7182198
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27.9313393	28.4329701	28.1860809	28.3012505	27.1784496	26.6251907	26.8522205
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20	20	20	20	23.6445999	25.8141899	26.3413296
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28.2938595	28.3833199	28.2689209	28.2924595	29.0528202	29.6305294	29.7103291
27.1999493	27.1477299	26.8740807	27.0684605	26.2719307	26.1306305	26.40592
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26.4854698	25.6747894	26.0209999	26.1912193	27.8307991	27.2885895	27.4989204
28.0708103	27.9772701	28.1731701	28.16605	27.6867199	27.3891106	27.3411293
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27.9808197	28.6272106	28.06106	28.3794003	29.4653301	29.71908	29.43046
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27.3610191	27.4370594	27.5762901	27.4830093	28.1304092	27.8611794	28.1417503
26.8712692	26.9941006	26.4529495	26.8137207	25.9312306	25.2811108	25.5863209
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27.5903492	27.1567307	27.4060898	27.5150299	26.8352108	26.8061199	26.7109604
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29.0339394	27.7360191	29.1766701	29.1159992	31.5811806	30.9003792	31.2484093
26.6296501	26.7087193	27.0230598	26.6288109	26.2021904	26.02528	25.9097195
27.2368107	27.3047009	26.8884392	27.3738499	26.3496704	26.2315102	26.5428391
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27.3254299	26.9078198	27.1914997	26.8712692	26.3960095	26.0123692	25.9845696

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26.2546291	26.3673306	26.8963108	27.1768398	28.5829792	27.9179192	28.1745491
28.87467	28.8870697	28.9055805	28.7595806	27.7523899	28.0994892	27.5422192
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26.4775791	25.9870701	26.1793995	26.25494	26.7940197	26.9773808	26.7905407
27.8735008	27.8254204	28.2186794	28.2622604	27.4565392	27.2545795	27.2834797
29.4085007	29.6654301	30.0611095	29.7588196	26.3280907	26.6210098	25.3122597
23.5724201	23.1079407	22.9748402	23.2881393	24.3174801	24.9284592	25.6738701
27.7867508	27.9879398	27.8089409	27.6762695	27.3913307	27.3302307	27.1693001
23.9321995	23.6835709	24.1462402	23.9113197	24.7210407	24.6979504	24.4414501
20	20	24.5728302	20	27.4227009	27.9567108	27.3125897
30.9820995	31.4640198	31.1689606	31.0255108	30.619381	30.5140896	30.4669399
26.4401398	26.3637409	26.2166405	26.1781101	25.0926094	25.3119202	24.8083305
28.3071308	28.3515701	28.0513401	28.3088207	26.8568592	27.0833492	27.2455406
23.9672794	23.5480404	24.4766693	20	28.4066105	28.9115391	28.8222904
26.7279301	26.8807507	25.6869106	26.5407906	20	20	23.8796101
29.9440498	29.8461494	29.7563705	29.7613392	30.14394	30.23135	30.1828098
26.6290894	25.4953098	26.4587994	25.7650394	28.3051701	28.5032101	27.6346397
27.8749008	28.0435391	27.8428993	27.7346706	27.0521698	26.4843006	26.8916893
27.8780708	27.9707604	28.1557198	27.8406792	27.5588799	27.3731804	27.2964897
28.7887707	28.3428192	28.3473492	28.2493897	27.7263107	27.4271793	27.5951309
26.4794197	25.8920307	26.6382408	26.2713795	28.3659496	27.4699497	27.5479698
26.6792202	26.5394001	27.5170593	27.7484894	25.5936604	25.0472698	24.4475803
29.1889095	29.2612095	28.8328304	29.0254097	28.4426899	28.5022202	28.5403805
27.9589195	27.4555206	28.0103092	26.95438	28.8342495	28.9934502	28.8962002
29.8575096	29.4727993	29.9752808	29.6617699	31.8690891	30.9067707	30.7896309
28.0928001	27.7558308	28.0387306	28.1069908	28.5643807	28.82584	28.9337406
31.576191	31.5295296	31.35495	31.6505699	31.9738102	31.9973507	31.8694592
26.3646793	26.1307297	25.9050694	26.2223206	26.6034298	26.7403393	26.7814407
32.1535187	32.3141708	32.3734703	32.4479294	31.6389294	31.2563705	31.6833992
27.2786102	27.5012703	27.2201996	27.2832108	26.6116104	26.6622105	26.7298794
27.8823299	27.2909699	28.0251694	27.7170506	29.3803692	28.7679005	28.6331196

28.9387093	28.9750595	29.5637608	29.6869392	30.4100304	30.2256107	30.6525803
27.2018204	27.2291298	27.5039997	27.5972595	28.1875897	27.9654903	27.9716396
28.2922802	27.8067303	28.1412201	27.8074703	27.04562	26.8837891	27.2338009
27.4486103	27.4041405	27.4324493	27.2140102	28.0172806	28.2571907	28.6900291
25.5585594	26.4159203	26.2325306	26.4993	27.7181606	28.0689201	27.5135994
28.1911697	28.4540691	28.5743809	28.1286392	29.2837906	29.4940395	28.876051
27.8419399	27.9223003	28.5582295	27.8092499	26.5567703	26.3886204	27.2396298
33.2547607	33.0862389	33.3388405	32.7163887	30.2016296	31.6785393	31.4808693
27.8132896	28.1180306	28.3343697	27.8720894	26.8905296	27.2120609	27.3819504
26.4456692	26.3750305	26.3284302	26.2380104	25.8876209	25.7253304	26.0952492
27.5711594	27.55443	27.6602402	28.0279102	26.91148	27.1095905	27.1967602
31.3244209	31.2605801	31.2754192	30.8779602	30.5151196	30.7455902	30.3707809
31.1406002	31.1831093	31.1978893	30.9213905	30.5662003	30.7400494	30.7870598
27.2551193	27.0659905	27.6042099	27.3457909	28.4477005	27.9994297	28.0006695
27.5359402	27.1066895	27.1764603	27.1916008	26.0434799	26.2651196	26.4927406
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26.2478809	26.4903107	26.6923199	26.0114193	25.1525192	25.5861206	25.6024094
26.5308895	26.0115891	26.276331	26.6245003	27.5904903	27.2008801	27.2453594
26.4930306	26.6345005	26.7398205	27.0564098	25.53582	25.8565197	25.8299904
25.4890709	25.2238293	26.0625	25.6216793	27.2796803	27.7439404	28.1501999
33.0106812	33.008831	33.0281982	32.8864403	32.7860298	32.5043602	32.4262695
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34.7122612	35.189209	34.61763	34.6151695	34.1074295	34.0308304	34.0651894
34.2137909	34.5595589	34.7031593	34.6760292	35.1674309	35.2810898	35.2363091
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28.4653301	28.1354103	27.6965103	28.3073902	27.4857006	27.1095905	27.0441608
25.1287708	24.8812408	24.7213993	25.2483292	25.8290501	27.1173401	26.1856003
27.2327004	27.0567207	27.4485302	27.4239807	27.7514305	28.1912708	28.0119591
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26.6560803	26.4835796	27.0464592	26.9452496	27.3634396	27.6843205	27.3759995
29.5378799	29.1767902	29.4747391	29.3068295	29.0244007	28.6412697	28.6400299
27.4435597	27.5327492	27.1025009	27.0576496	25.9384708	25.8141403	26.2871704
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28.3046093	28.1895199	28.1955891	28.5348206	27.35355	27.9256992	27.6859207
25.3296509	24.6186791	24.6992207	24.6594391	24.0774097	24.0822105	23.9926491
26.5033398	25.2306309	26.2116108	26.2161808	24.81534	24.7403698	24.7221909
27.3698597	26.9756393	27.2831307	27.1967602	26.0738201	26.4269791	26.1375504

31.2447395	31.4596806	31.0553703	31.2422409	30.5635605	30.869381	30.8349991
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27.5795994	27.01297	27.7924099	27.0992909	25.9375992	25.8837891	26.5056591
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30.9259892	30.5065403	30.7001705	30.7084904	30.3092098	30.0699692	30.2388802
27.3125897	27.8211594	26.8777103	27.0961704	24.7376308	25.9909897	25.7822208
27.7870598	26.9710407	27.7195396	27.5731907	26.47048	26.6904602	26.7684994
28.0565701	27.9364109	27.2796803	27.8012505	26.6875191	27.0011005	27.0913391
33.2948799	33.6697693	33.231781	33.3121605	32.7590103	32.8022614	32.9591599
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24.7905407	24.6064205	24.7572498	24.8310299	25.6175709	25.3255005	25.4783402
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29.8709602	29.0016403	29.2388401	29.2054291	30.4031391	29.9510193	30.3388405
29.4879398	29.5330792	29.1504002	29.2719708	28.8074398	28.7863102	28.7634392
26.5879192	27.3254299	27.8287506	27.5098991	29.1752396	28.3074799	28.5571709
27.3990898	26.8927307	27.4451408	26.9462605	26.1149406	26.3071308	26.5633907
26.0043392	24.5394306	25.8984604	25.4696693	23.9559803	22.9902802	23.6145897
27.1859398	26.6585407	26.8089409	26.8872795	27.3118095	27.8526402	27.6585999
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25.5334396	24.7663307	25.7722607	24.61796	26.3894692	26.7790604	26.2076702
28.5434094	28.0890198	28.5616207	28.2687397	27.4967098	27.5393391	27.7384701
28.3726406	27.9990006	28.3757591	28.364111	28.5737991	29.0415306	28.9626503
23.6594906	23.4983807	24.3455696	24.5701599	25.5644493	25.1695099	24.9583206
26.4277096	25.9570808	26.2188702	26.4532604	25.8514595	25.4219093	25.6912594
24.7551098	24.2821407	24.4526806	24.8476105	25.6598396	25.9106808	25.06213
23.3882408	20	20	20	24.6482296	24.0652103	24.4451199
27.2879791	27.0829392	26.8703308	26.9727898	26.6940498	26.2681007	26.5678291
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29.0612907	29.0614891	29.0935593	28.9017906	28.6166992	28.1951199	28.6204796
30.4504204	30.9478207	30.7927303	30.8224392	31.1288509	31.3181896	31.4128609
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32.6866188	31.7483501	32.9561691	32.8757515	34.8268585	34.0524597	33.5041504
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26.3385105	26.0234795	26.3487301	25.9449406	25.4129601	25.3486404	25.8612194
26.2270908	25.8523102	26.1212902	25.7295704	26.9517193	26.5030499	26.4982204
26.0323391	25.6429806	25.9844208	26.2854195	26.9367409	27.4112701	27.2669601
31.6479206	31.6024895	31.3233509	31.25564	30.8097	30.7017403	30.7210999
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26.0195999	26.4009304	26.8125	26.0526695	28.6301994	28.3895607	26.9623509
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26.5561695	26.6896591	26.5705299	26.3575192	25.9330807	25.9321995	26.2468109
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28.3628197	28.4211292	28.0359097	28.0243301	27.6375504	27.3042603	27.7351799
20	20	20	24.9033909	25.5380402	26.1990109	26.6532192
32.7234383	32.6040192	32.7200584	32.7627411	32.417141	32.5960388	32.489151
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33.2362099	33.211319	33.2602387	33.3323097	33.5813904	33.4134903	33.3826485
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27.5609207	27.9412899	27.8241406	27.71208	27.5038509	26.6972408	26.7083302
20	24.025631	20	20	24.7389202	24.9233398	24.9326992
26.6474609	26.4310303	26.1287708	26.4545193	25.6707707	25.4860001	25.8170891
33.8315811	33.7365112	33.696331	33.8081818	33.2978897	33.1249199	33.312439
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27.2826805	27.38657	27.3350906	27.2574596	27.2261009	27.0104103	26.9468193
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29.1261997	28.7929001	28.5206604	28.5049896	28.3271008	27.9667492	28.0423393
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20	20	20	23.9265995	24.1423492	26.8423004	24.5477505
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26.3260708	26.2426891	25.6686306	26.09762	27.7531509	26.5558205	27.1029892
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27.8513298	28.0987396	28.3171291	27.4449005	30.0585308	29.9838696	28.2728005
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24.9592094	22.9299107	24.5389595	24.6212006	25.6516304	26.6623402	25.6804295
25.3417702	24.8274002	25.4671898	24.8982296	26.7705193	26.1712494	25.6039696
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29.2772408	28.9143009	28.2975407	28.6403103	28.3820801	27.72579	27.7059593
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27.9661999	27.3246594	27.7714691	27.3456192	27.97295	28.3587093	28.3664494
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26.06003	24.9178391	25.8248596	25.4860001	26.1870709	26.1340294	26.2828598
26.6618004	26.1442394	27.1111794	27.0515499	28.1094894	27.1797791	27.2383595
26.6114693	27.5572796	26.9708195	26.8858795	25.9184799	25.7869091	26.7488098
25.2376099	24.9182091	24.8041992	25.1911793	25.4581108	25.3814907	25.3492508
20	20	24.4101505	25.9639797	26.8720894	26.7281895	26.4873505
25.3629608	24.3329296	25.2341099	25.1114807	25.5975895	25.6371594	25.6396999
28.3013401	28.2989407	28.4159107	28.5782394	27.50877	27.7694492	28.0425491
27.3908405	26.9868507	26.9466991	27.6533508	26.7126694	26.3159294	26.8884392
24.2762508	20	24.1844997	23.751751	26.4354591	25.9930897	24.7928791
33.1400108	33.4029884	33.2902184	33.4557419	33.24757	32.83424	33.0681114
20	20	25.4520207	20	24.6325092	25.0320396	25.0952301
29.6634998	29.5481396	29.4636498	29.2670307	29.31637	28.8638706	29.0586891
27.4817791	26.7770596	26.8056297	27.1650906	25.8660393	26.86903	26.37323
21.6951904	21.8133907	22.9141293	24.6663303	24.9573498	24.4220104	24.2088108
25.8433609	26.5153008	26.7452202	26.1797009	26.5616207	27.0595093	27.0396709
25.7787895	26.3112907	26.7158108	26.7427807	27.2991104	26.98913	26.7476597
27.3305702	27.4291	28.1548004	28.4340401	27.0580692	27.1375103	27.1816807

20	25.14468	20	20	24.6616097	24.8639603	24.04743
27.3258591	27.0926495	27.3092995	27.5816898	27.8907604	27.6879292	27.8582802
29.4694099	28.9952602	29.0617809	29.4216404	29.3323402	29.7375908	29.8633099
25.7129002	25.33885	26.2819595	25.3495598	24.9806309	24.7427807	24.4763603
27.5015793	26.8740807	26.4060898	27.0340195	26.4675007	26.2843304	26.4470005
30.5566406	31.0317707	30.6576195	30.6358204	30.5745201	30.2628193	30.2375202
20	20	26.8418198	20	26.2893295	25.9196396	26.5210609
24.6828709	20	20	20	23.9785004	24.2896099	24.2719898
34.6945686	34.9813309	34.86623	34.4792519	34.715229	34.1205406	34.170269
33.0539398	32.9361382	32.8286781	32.8498001	33.1909599	33.0519714	32.9949303
25.53582	20	20	20	25.9220696	24.9452992	24.71665
25.6787891	24.0979595	25.0561409	25.2048607	25.8749008	26.4508305	26.0706902
26.2528305	23.7870598	27.2153091	26.06036	27.6491108	27.3660297	27.6585407
20	20	25.8386498	20	24.92556	25.9130096	24.9081192
30.3194809	30.3624401	30.8153591	30.93993	30.8972797	31.0576305	31.1184902
20	24.7361908	22.5664902	23.0075302	25.7102795	24.8493309	24.7853108
20	20	24.4199505	23.0613003	24.5978699	24.5687695	24.7086201
27.9574795	28.2932491	28.2380009	28.8141193	28.7300396	28.6034603	29.1267204
20	20	24.0720997	20	24.1950493	23.3701305	23.2836208
26.8187294	26.6684399	26.3834209	26.6147003	26.4033108	25.9915695	25.9008102
26.0658703	26.9862003	25.5316296	26.78619	25.2264805	24.1671391	25.4438
28.3636894	28.4544601	27.3151894	27.9407291	27.7232494	26.4370499	26.8907604
27.7783108	28.2969704	27.4621697	27.3309994	24.8803997	26.4872208	27.1088905
25.4824696	25.1549091	25.0410996	25.6768894	25.9755898	25.7926292	25.7180595
31.0435505	31.7558498	31.3739395	31.4598808	30.3634796	30.5515099	31.0673409
25.4078198	26.14254	25.1473999	25.2957897	26.3457203	26.2536907	26.1809406
26.0048103	25.3511105	25.9084797	25.9706192	26.39048	26.0310707	26.3686104
34.7226296	35.0451508	34.9989586	34.8815804	34.5444412	34.6400604	34.6782417
20	20	24.5531502	20	24.0004101	23.7602997	23.9933491
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20	20	24.96908	20	23.6347809	24.6984806	24.7570992
28.4717407	28.3565807	28.3897305	27.8433209	24.6238804	26.0618992	28.3579998
26.5365601	26.0607491	26.4109097	27.0046406	26.8937702	27.1008892	27.1445293
20	20	24.6227093	20	24.2321301	24.5920105	23.8682499
26.2359695	20	26.1093102	26.4781094	28.0886593	29.0324707	29.0247498
32.8468895	32.6503601	33.0585594	32.7044792	32.8224793	32.2913399	32.1169701
20	20	25.3918209	20	25.2088795	25.2275505	24.1570702
24.6630192	20	20	24.7739391	25.5201302	25.6088791	26.1756802
24.7262993	23.4241905	23.0068398	24.8974896	24.5411491	26.0432491	25.4104404
32.1814804	32.4037018	32.1253395	32.0002518	31.8026295	31.8760605	31.8613091
25.6076393	24.7508297	25.2447109	25.2489491	20	20	24.3435402

27.5049095	27.3517799	27.4594402	27.5641308	26.9515991	27.3414707	27.2269192
29.1701908	27.9323597	28.8698502	28.9808407	29.2543793	29.5277805	29.4642792
27.0212593	26.6772099	26.0345402	26.9732304	26.1005096	26.1556091	25.9329701
26.7588806	27.4196491	26.0500298	26.4953995	25.7327499	25.7278004	26.3205891
26.5438309	26.6079502	26.8314705	26.8667908	26.9349499	26.7988491	27.0179691
27.5824108	27.3447704	27.5681191	27.9564896	27.4067307	27.0934601	27.3457909
27.5394192	27.6182804	27.6133003	27.8911591	27.9368591	27.7938309	28.1152992
33.1794395	33.3861198	32.9950104	33.2109489	32.9711418	32.80476	32.980751
25.4500408	23.5244408	24.4342194	24.7101994	26.2435398	26.0843391	25.8036594
28.3486195	27.7004795	28.4708805	28.2271099	27.9246197	27.6634293	27.7297497
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26.6362991	25.8655701	26.4149799	26.1082497	25.8396606	25.8225308	25.7366009
29.7035008	29.4712105	29.5119991	29.3947296	28.8150692	29.4484291	29.1299896
26.3831596	25.0644703	27.1763592	26.4078693	20	20	25.7687302
30.0631695	30.1057491	30.1606293	29.8849201	30.6258392	30.1813908	30.2641602
20	22.7095203	23.4748192	24.6271191	25.4780006	24.2845402	25.2546501
25.4279003	20	20	24.86022	25.9280701	26.6162491	26.1575794
29.2343903	29.0275192	29.4621697	29.2231293	29.2346897	28.6031094	28.5652905
24.33811	20	24.41642	20	24.7223892	25.4052296	25.3006191
27.8399601	27.7891808	26.8726692	28.3052597	28.0995903	28.6228905	28.6048107
26.7819405	26.3391094	27.3728504	26.5652199	27.6690502	27.2830391	27.0328598
24.0483494	24.8631592	24.4953995	24.8053303	20	23.5576592	20
22.21945	29.8942604	27.7992802	25.8543892	20	22.95438	22.8991604
29.3268509	28.5827999	29.7556992	29.5012493	29.9964504	29.8061791	29.7871208
25.7570705	25.8824101	26.2430401	26.0336609	25.8079109	25.7405491	25.58881
28.0646095	27.9193993	28.0362206	28.3239708	28.3323593	28.2261906	28.3265495
31.2768097	31.2630501	31.41185	31.2000504	31.2590694	30.9635391	31.0247898
26.6404495	24.3892307	26.1301994	26.738411	27.2950001	26.7948895	27.6123791
28.5012302	28.3693199	28.1005898	28.6174393	28.6531506	28.6645508	29.0512104
28.6891308	29.0366898	28.8926392	29.0396195	28.3722706	28.2826405	28.7604408
28.23699	27.7254009	27.8198204	27.7797508	27.9930191	28.4337997	28.3526592
27.1903706	27.6898594	27.5009708	26.9400005	26.27384	27.0479107	26.9243393
26.6807003	26.4795895	26.8830891	26.4833298	26.6254692	26.0524406	25.8717594
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27.8942909	28.1911202	28.2506104	28.0128708	28.1034508	27.6157608	27.60322
23.9569492	20	25.0925293	20	25.2540703	25.5871792	25.2230606
27.0857792	26.8314705	26.8908691	26.6684399	26.8765392	26.3373699	26.512991
28.2929001	28.6910896	28.8729401	28.8343697	28.5864906	27.9768906	28.1894302
33.6302681	33.8985291	33.9477692	33.8579598	33.6840591	33.537159	33.5689812
28.6680393	28.8770695	28.6338406	28.4826202	28.7553196	27.84655	27.8513298

23.8913403	23.7706204	24.2016506	23.4451809	24.4913006	24.0343094	24.3794098
28.8514404	28.9562893	28.9573193	28.32444	28.6279106	27.9011002	28.2908306
28.48662	28.4269791	28.5610695	28.3673992	28.7506008	28.51371	28.5930595
27.0194492	26.7226009	26.6118908	26.9897804	26.8923798	27.4948006	27.2995491
25.6533794	26.23456	26.1233692	25.9600296	25.6071606	25.1714592	25.6705799
28.3366699	27.8206196	28.1881104	27.8029804	27.8672009	27.4713497	27.4844704
20	20	24.9178391	25.8573799	26.4844704	26.6988297	27.5223808
25.5840492	24.8590908	25.6087093	26.1528492	24.0598602	24.6571999	24.68153
26.6763992	25.0146103	26.3817101	25.2816105	26.91889	26.3924408	26.9967995
29.2764206	28.8728809	29.2530899	29.3300591	29.0378399	28.8469696	28.7958202
27.9237099	27.7604008	27.3944397	27.6496601	27.6636295	28.3583393	28.5634708
20	24.0826092	20	23.9775391	23.9226208	25.3238907	25.4705391
27.2823296	26.7716503	26.6920509	26.1640205	25.8089199	25.9281197	26.3834705
28.9004402	29.1480694	29.3503094	28.7852497	28.6986008	28.55336	28.9272499
27.1941299	27.0585804	27.1953507	26.4988709	27.1561508	27.4445896	27.5060501
31.2757492	30.9964504	31.1352806	31.0014191	31.0621395	30.6366806	30.7361794
27.6167393	27.1180306	27.8226204	27.6668892	26.6397591	27.2008801	26.7226009
26.2745705	25.2269592	25.9474392	26.2592201	26.6859207	26.1384697	26.6908608
27.0584793	27.0804997	26.9856606	26.9560394	26.5026493	26.3435707	26.7999592
26.0321903	23.9388504	24.6325092	24.8396606	20	23.3501606	23.4312191
34.4204102	34.3880501	34.4678803	34.3246918	34.378849	34.2914505	34.2832718
28.0261192	28.2025604	27.56493	27.8392391	27.1920605	27.4151402	27.6639099
26.6915207	26.3266106	25.8210201	26.5058708	26.5129204	26.8100491	27.7996502
25.2568092	24.8695202	24.5353394	24.7208309	24.8720207	25.4336109	26.0197105
25.0242405	24.5279694	25.0090694	25.1690197	24.4389801	24.7234306	24.5492802
26.7416306	26.4542408	26.1821098	25.5910397	25.4842205	25.6475391	25.9351006
31.5761509	31.9516792	31.9650593	31.9276199	31.5792103	31.3218403	31.6851597
26.8626595	27.2985001	27.7209702	27.1940403	26.6608505	26.7942696	26.4935799
29.0455208	28.2068596	28.6851196	28.8314095	28.4269409	27.6807709	28.0878506
35.117569	35.3696785	35.1668396	35.06604	34.9268112	35.1057892	35.0156708
20	20	25.8541699	24.7853108	25.9004192	25.5886707	26.2656899
28.5478993	29.4970493	28.20574	29.1798992	28.2950897	28.1269207	27.8878002
20	24.2743397	25.2237206	20	25.5120392	25.7157803	25.0879192
27.9772701	27.9386005	28.0028706	27.7864399	27.6715508	27.8298397	27.82481
32.4936409	32.7778816	32.5909004	32.5732384	32.4854088	32.4627304	32.2398796
27.9377499	27.4589691	28.01478	28.2472591	28.5112991	28.3393898	28.2950897
33.8244896	34.217041	33.9920998	33.7557297	33.7013016	33.4561081	33.6595993
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27.8179398	26.6609898	27.4019394	27.0618801	26.2234497	26.7701397	26.8436203
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26.9928093	26.4931908	25.6371002	26.1048393	27.0609608	27.2094593	26.9945297
29.9975205	27.97509	30.5324993	29.5086403	28.1459808	27.7540398	28.6280804
29.2201996	29.0788708	29.3723507	29.3387699	29.7279491	29.2450199	29.6103306
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31.3581505	31.5378304	31.27281	31.0525799	30.9935494	31.0026302	30.7037201
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25.4310608	25.1912594	25.3301201	25.4314804	25.7119598	25.3147507	25.7302895
24.5100803	20	20	23.6330109	25.0782204	24.4711609	24.49473
20	20	24.4463806	24.5289192	25.1301804	25.0531597	24.8246899
29.1143894	30.5446205	29.78022	29.2808094	30.5222492	30.5058804	30.0534897
26.9562607	27.0746994	26.8428993	26.6961708	27.0954704	26.9742107	27.1756992
25.2098503	20	25.2589703	23.7437592	26.4208508	26.5333691	25.850071
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25.9184799	24.8715496	24.99226	25.4336491	25.8258801	26.1591492	25.9059792
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27.2129898	26.8445797	27.3652802	27.3631096	27.2557507	27.9183197	27.5293198
26.4666901	26.07934	27.3621903	26.5601196	26.2972393	25.8205795	25.7909699
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28.9993191	28.7391491	28.8549309	28.7918205	27.1501598	28.2574997	28.3985996
26.9383202	27.26651	27.4441109	28.3613892	28.6346092	27.9957199	28.2937794
28.8066406	28.6405506	28.7864094	28.8453598	29.0653801	28.7196693	28.9912605
27.1927204	27.6738396	27.1086903	26.7430401	26.9892292	25.9186592	26.7663593
25.2564907	20	24.7049294	24.8644295	25.9430904	26.1906891	26.3338108
25.2593308	26.1466694	26.3248291	26.9195709	26.7813206	27.4066505	26.4972
24.6268406	20	24.5778503	20	24.6116104	25.1760006	25.1762295
27.0544491	26.1887093	25.2441998	25.7753506	26.3362694	27.1255398	27.0832405
27.4505692	27.4254208	27.5593205	27.2584496	27.9166107	27.6964397	27.4889908
26.61203	26.8463707	26.4340096	26.77178	25.58041	25.5809803	26.4221401
23.9329205	22.1390896	22.0660496	22.0694008	22.9628201	23.5945702	24.2260399
27.9745407	27.7446404	28.1999893	28.0409794	28.84338	28.0489998	28.4043007
25.43717	23.7810707	25.53368	26.4794693	25.7592602	26.7657204	26.7631893
29.6110802	29.4052906	29.5837002	29.4315891	29.1587791	29.3304405	29.5291901
24.99753	24.6118908	24.1375904	24.9977398	24.2569504	23.7763596	23.8863201
26.7362194	27.1467609	26.5867806	26.9621296	26.6318703	26.6543102	26.5784493
24.3175507	23.1662102	24.1407909	23.3318291	23.5263596	25.4711609	25.1788101
28.3242302	28.2176209	28.0581207	28.6614609	27.8929596	27.7225399	27.8138409
20	20	23.74263	23.9249706	24.2545795	24.1480999	23.9419003
26.1315002	25.5467796	26.6684399	26.9202499	26.2889996	27.2306805	28.0509205
29.4702606	28.6615601	29.2715092	29.3898106	29.32131	29.7241192	29.8292599
24.613411	20	25.0685806	24.3176193	24.6526699	26.3876705	26.1122704
27.5294704	27.5798893	26.4376698	27.3855	24.9595604	26.2515507	26.9321308
28.0644493	28.6380997	27.70187	28.2413197	26.3559208	27.9552097	27.2425404

25.1028595	25.0533695	24.9936009	25.0580502	25.0417709	24.5692406	24.1601601
20	20	24.1622295	24.4487209	24.7789097	24.2385597	24.6940193
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27.4051895	27.3130207	27.1647091	27.22085	26.7166004	27.1325207	27.1142597
26.8588696	26.6871204	26.6651897	26.7103005	26.5125103	26.2673492	26.7241592
26.4398499	26.0201798	25.9593906	26.2542706	25.9535408	25.9400597	25.9859009
20	20	25.9070091	26.0437508	25.7415791	26.4224892	26.3500805
26.0980606	26.3094902	26.44133	26.5676708	25.1757298	25.4753704	26.4176407
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25.8536205	26.5843391	26.0121193	26.6236591	24.2699909	25.3132305	25.6815605
26.2778492	25.1146202	26.2653294	26.4400101	26.7602806	26.4134007	26.5648499
27.7870007	27.4253407	27.6429291	27.6564198	27.7177696	27.65942	28.2846699
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26.7737904	25.8247109	25.0641003	26.62784	26.2223396	27.36586	27.3373108
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27.4904499	27.2127094	26.7215595	26.8968906	27.0296001	26.4230194	26.5279503
24.57934	20	20	24.1140194	24.5493393	24.0766792	24.8636303
20	23.4246998	20	20	20	25.6195297	24.22612
28.5588799	28.1514607	28.5411491	28.49576	28.38587	28.0129204	28.1666298
26.5826206	25.9582806	26.3684006	26.1037808	27.1380005	26.2668209	26.7074108
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26.5144596	27.1148605	27.1958199	25.4818802	25.8490696	25.6832199	25.8709602
26.7493191	26.8039093	27.9113693	26.6155491	27.5011196	27.38204	27.6112595
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26.2175598	26.7915402	26.5953407	26.8869305	26.6589508	27.2115002	27.4291
20	20	25.9920692	26.5988903	26.1081505	27.0652809	26.3098698
26.9196892	26.5995998	26.8675003	26.2508106	25.3475609	25.9008102	26.2296906
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26.9293098	27.0512409	27.3319397	27.1435509	27.4835491	27.2076893	27.2650795
20	20	25.6582394	24.6653004	24.5884094	25.5063992	25.7473202
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20	20	27.3243198	26.7400799	27.0397797	27.2368107	26.8625393
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28.29916	28.5295105	28.1591892	27.9625702	27.8895397	28.2743092	27.8337002
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23.2358208	20	24.637991	20	24.5502796	22.9323597	24.4444904
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25.3274899	25.5236397	25.59622	24.6707192	25.9698906	25.2558708	25.8828793
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24.4707909	23.7954102	20	23.8934708	23.7990704	25.0225105	25.1506195
27.8424797	27.5585899	27.7407303	27.8705597	27.6049099	28.1771202	28.0845108
23.9156094	25.7700691	20	26.1026192	24.6432304	26.2233601	27.0268593
20	20	24.1633091	20	20	24.7253094	24.0958691
25.4319191	25.1353207	24.6322308	24.77178	24.9289093	25.3484097	25.4073696
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31.5276699	31.6400509	31.4861107	31.2127991	31.3163509	31.3216305	31.1794395
26.8565006	26.4943104	25.9059601	26.0199394	26.2196102	26.6911202	27.0739803
26.8331604	26.7853108	26.5629597	20	20	20	20
35.4754791	36.0078201	35.9686394	35.6247292	36.1624489	36.0652313	35.7775192
25.6142292	26.5302906	26.7156792	26.2952709	24.7208309	26.3033695	25.9257908
24.26091	24.3224392	20	24.2514	24.6684399	24.6300106	24.8567104
20	20	20	24.4100895	20	24.5465698	24.82094
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25.5278797	20	20	20	25.6365204	20	25.6886196
31.80793	32.2490387	32.3782082	31.0444603	30.6978493	31.7809391	31.0249901
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26.2579804	20	20	20	20	26.2740498	26.7926598
23.7604008	20	20	24.2404499	23.1423302	23.4349194	24.06423
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25.4062309	20	20	25.3640595	25.0904694	24.7257805	25.1303005
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26.4096699	25.9752197	26.09305	26.0653992	25.7176704	25.6511097	26.3059292
26.3791294	25.43186	26.1972504	26.5555496	20	26.1843109	25.7573509
26.5011692	25.9594994	26.5427094	27.02981	27.1236591	26.71385	26.6497898
28.9494896	28.4946499	27.9695492	28.6522198	28.1522408	28.3088207	28.3843498
29.0767098	28.9644108	29.0344391	28.6501694	28.5058193	29.3754406	29.5158501
26.3510704	26.4140797	26.6833801	25.5170708	27.2584496	26.6525307	26.7588806
28.1626892	28.0847092	28.7681198	28.4227791	28.4488792	27.7904797	28.1005898
22.3436203	22.4484692	20	20	20	23.5721893	23.4382191
25.0812302	25.0342693	25.4841309	20	25.1206799	25.6075192	25.4379692
25.5396099	26.4311791	25.4574204	25.0374107	20	24.9573097	25.4874497
24.8614101	25.5707703	27.14044	25.9615994	26.80723	26.25667	26.3984604
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27.2517796	26.3432694	25.8949509	26.8747902	26.3614006	26.9268303	27.3225098
28.4046593	28.8164692	27.6957798	28.17169	28.2562904	28.5489998	28.7406006
26.2304592	27.0728607	26.3736	25.9437408	27.5240192	27.2262802	26.7197304
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24.4082699	25.2451	20	24.9141998	24.5803795	24.7255707	25.1932907
28.4775791	28.2156296	28.4494705	28.3652401	28.4200897	28.3974991	28.4004803
25.2877502	25.2553291	25.4947605	26.5217495	26.2311096	25.3789501	26.1460609
29.5554295	28.9119606	28.5185604	29.5398197	28.7054291	28.57131	29.1217403

26.8251705	26.2869701	26.7372494	27.5607109	27.6410694	26.4342709	27.1097908
29.2603798	28.8907909	28.5583401	29.2972603	29.4070396	29.2482796	29.4298401
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26.4231606	25.9244309	26.2391796	26.5545406	27.3448601	26.3988495	26.1734295
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26.5849209	26.3885193	26.1930599	26.0628109	26.4113808	26.1684208	26.0906906
27.7318897	28.50317	26.6156902	28.0988903	27.1953507	27.4311009	27.2323303
25.46348	25.1897106	25.3663597	24.75984	25.03549	25.8302403	25.6671391
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27.1310406	27.2750607	27.5315609	27.3413792	27.1029892	27.7085304	27.3581696
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25.2079201	25.4200802	25.3077507	25.4322395	20	25.4170303	25.2980309
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20	24.0076103	24.2330799	24.1454601	23.9292202	23.7439594	23.82687
26.14151	25.9814205	25.9689102	26.0453892	25.6922092	26.3417091	26.3527393
30.6262703	30.1089897	30.0717602	30.1674595	30.5131493	30.1082401	30.5967293
20	24.0475998	23.2726994	20	24.8134804	20	23.1963596
34.1739197	34.4414101	34.2991219	34.3369103	34.2649307	34.5255394	34.4601402
25.0691509	24.8215294	20	25.6210308	20	24.9992104	24.6899796
28.3806801	29.1519909	28.7514896	28.8595791	28.6445808	28.3185101	28.5153999
24.9498501	24.2794495	24.0538292	20	24.0046997	24.2987995	20
25.4983501	24.2495995	24.9876709	25.5759697	24.8679199	25.6757603	25.3873596
38.9072113	39.1106987	39.1249199	38.9646797	39.2319603	39.1375694	39.0016098
24.5854893	25.8335209	22.6507492	25.4445496	20	23.6118908	26.0161591
25.7750797	20	26.2944393	26.42453	25.2771797	25.8560505	26.4973602
35.5063705	35.4038811	35.6232605	35.3412209	35.4042893	35.5595017	35.5711098
20	20	24.9110508	24.9461002	20	25.3794498	24.9940796
25.5746498	25.4638195	24.8278408	25.8117199	25.2914791	25.1364498	25.5014191
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23.6541405	23.3601093	24.2719898	24.3193493	24.3362694	23.2077808	24.7553692
27.9472599	27.2826004	26.9794598	27.4506493	27.1050892	27.0844593	27.3350906
24.3821907	24.8001099	20	20	20	25.0053005	24.5694695
25.2300396	25.3294392	20	25.0627499	20	24.3518505	25.4709091
23.6875191	23.4661293	24.7680492	25.1872196	20	24.7542992	23.7484798
25.0696392	25.4831791	25.0014	25.3824501	25.9941006	24.9488201	25.3306408
26.4658604	25.7095699	20	25.8644791	20	25.4109592	25.9881306
29.7098103	29.5847893	29.4304009	29.6719704	29.8530808	29.4654808	29.6943207

26.7941399	26.2737103	26.3209095	26.7409802	26.1291409	26.8000794	27.0692806
24.4011898	24.1490307	25.0028992	25.0209007	20	25.0776501	24.8262901
20	24.4867706	25.3209305	24.5446892	24.3565598	24.1582298	24.6868305
25.2590408	24.7972393	20	23.9612904	24.7131901	24.0252094	24.36866
24.6110497	20	24.0734901	24.3433991	20	24.1347694	24.1399307
26.8952694	26.2354202	26.9685097	26.9347191	26.7919102	26.9175205	26.8667908
27.5652905	27.3911591	27.9858704	27.0149994	28.3684902	27.7176399	27.2690105
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27.5265694	27.3977909	28.4175205	27.0648708	27.9840794	27.0965805	26.9462605
25.3736801	24.3398094	24.7122994	24.8956394	24.7723808	24.2139301	24.9099007
27.3087807	27.5547905	27.2632904	25.0975609	27.8037205	26.8385792	27.0521698
24.9835892	25.2997398	20	25.4826908	24.8678799	24.8453198	24.7193108
23.5032501	20	20	23.6729298	20	23.4028893	23.8605099
25.6487007	25.8367004	25.4233208	25.8521004	25.8852997	25.2346897	25.8463001
24.5584202	20	24.3412991	24.2946701	20	20	23.75103
34.4162712	34.2390595	34.4518814	34.7300415	34.6865616	34.4169617	34.1462708
27.3089504	27.2935104	27.0818195	26.92626	27.0041008	27.3420601	27.3258591
25.6410008	24.9112301	25.2592907	25.7181397	25.8575401	24.7521591	25.0859394
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31.1293392	30.9641609	31.9506702	31.7139893	31.5787106	32.4509583	31.3646908
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23.8409596	20	24.3943405	23.5925198	20	23.4970398	20
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20	24.4583893	25.7562103	20	20	24.7775097	25.6136894
27.2103901	26.7783108	25.9800892	26.7340202	26.5176907	26.4468708	26.4436207
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20	20	23.57057	23.7328301	23.89328	20	23.7578602
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26.0377293	20	26.3876209	25.9568195	25.5729694	25.3550491	25.5433292
25.1159706	24.9423904	24.6770706	25.0385895	20	25.8788605	25.2238293
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23.5438004	25.6756802	24.0634899	24.1074905	24.5597591	23.7178497	25.1248303
27.1959209	25.8074207	26.1599598	26.64361	24.9641094	26.3117409	26.3276806
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23.7107201	24.3102894	23.0766792	23.5357609	20	24.0534096	23.8300705
27.2862091	25.2329407	26.1330509	26.7715302	25.7732697	27.2929897	27.22995
26.9087296	25.1789608	26.1187401	26.7572308	27.6931896	25.8282299	25.9520702
25.0192909	23.9999809	24.3772297	24.1098805	23.68046	24.8738499	25.3359909
20	27.64678	29.5094299	28.4746399	27.8255997	28.1341305	27.39991
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25.6404495	26.0312595	25.9351006	26.0824699	25.1595402	26.2390308	26.3391209
29.2700195	28.7331505	28.7807198	28.8451195	29.3916092	28.8153706	28.8421803
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28.3750496	27.7581196	28.1766892	28.4604893	27.9636707	28.3519898	28.6008797
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25.9571495	25.1342602	25.6605206	25.4091797	25.4241295	25.0992508	25.3061905
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20	20	24.4027596	24.620081	20	24.2172699	24.5509205
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26.6891308	26.388691	25.5898705	26.6096401	20	27.1340809	26.8005791
25.9915295	25.1384792	25.5376492	25.9970093	26.1986008	25.0722199	26.2193508

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20	20	25.8116398	26.5474892	26.7371197	25.6482792	20
25.2098904	20	20	24.2623406	20	24.4203396	25.3690605
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25.1156902	25.2882099	20	25.4712791	20	25.2840805	25.7503395
26.8970108	26.2860203	26.9166107	27.0482197	26.5112495	26.78718	27.1263294
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26.02705	25.5161991	25.4612293	25.7933998	25.8787708	25.1393509	25.7339706
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24.7210903	20	20	25.1389103	24.3728504	24.4780293	24.46488
28.4538403	28.7609692	28.9895897	28.7035503	28.95541	28.3885403	28.5404491
25.4617291	24.98629	25.4787998	25.2001896	25.0644703	25.3022595	25.3815308
26.0377693	25.9700298	25.0190296	26.6487007	24.7318001	26.5494995	27.3169098
27.2216797	27.1037006	28.1628399	27.6391392	27.3871403	27.4770699	27.6067505
28.5506191	27.1559601	28.56176	28.0087605	28.068821	28.1196594	28.5518608
32.3586998	32.3725395	32.3477898	32.5180817	33.1150017	32.2958717	32.2039414
30.1153297	30.3125706	30.1791401	30.2518005	29.7392597	30.8001595	30.3405304
26.7376308	29.2103195	27.4281406	27.2764893	26.7869396	27.1429691	27.7209702
29.76721	28.9990597	29.1261005	28.82481	28.9631691	29.7480202	29.4540291
31.1477699	30.7656403	31.0844193	31.2516899	31.1130295	31.0407505	31.0196304
32.567009	32.7055092	32.5530205	32.2672386	32.8254013	32.3692207	32.3093185
26.7676201	26.4987507	25.9377308	26.4613304	25.5229206	26.5603104	25.9153099
28.7794399	27.6905308	28.1840897	26.1396198	27.7573509	27.9338799	27.9310093
27.24753	26.1827393	25.5068207	26.4166603	25.9685593	25.9664898	26.5688591
27.8644295	28.1876392	26.7932797	27.4125595	27.3817101	27.7051697	27.9346104
28.1184692	27.5786705	27.9566498	27.9934006	28.1310902	27.7563992	28.0406208
28.2784405	28.0414009	26.2519798	29.5305309	23.7990704	28.2715092	30.0447903
33.2918701	33.3639793	34.2155991	33.3393707	34.4531708	33.6311417	33.2257614
28.9445591	28.0230598	28.1190701	28.3009892	27.7005501	28.2377205	28.6587391
24.4397392	24.8351402	24.02631	24.8869705	24.1102009	24.8231792	24.8873501
25.9396401	20	27.4636498	27.1087894	25.1523991	20	25.6349201
28.8263302	20	27.7068195	20	27.5793896	26.73312	20
24.0067596	23.0875397	24.7724304	23.4930191	23.6791706	24.7953091	20
23.6121197	20	24.8403301	20	23.6781998	23.6696892	20
27.6170902	26.6481495	26.3297501	28.3410893	26.92309	27.3731003	28.4204903
28.32864	27.9567604	27.9733906	26.7314301	27.9595909	27.4588909	28.0526409
30.3000794	30.1257095	30.3973408	30.4138699	30.1547298	30.7038803	30.4039593
28.0310192	27.5350494	27.6870594	27.8563805	28.2854195	27.7127991	27.7273502

31.4891796	31.2493191	31.6237907	31.2799091	31.2310009	31.54986	31.1858902
29.5179806	29.6628704	30.0319691	29.9770508	29.8245201	29.5828705	29.6866608
27.20508	26.7683792	26.3710899	26.9658699	26.5820503	26.6211491	26.7971191
27.6894608	26.6407204	26.8265095	26.67519	26.9638901	27.0112705	26.7315598
26.83111	26.5723896	26.6109104	26.98913	26.2786503	26.8650208	26.7600193
29.4225807	29.3363895	29.3020992	29.5624905	28.9024792	29.1227799	29.6950092
29.3472691	29.2782593	27.8822708	29.3336792	27.4616203	29.3237801	29.8352203
36.1914902	36.5626907	36.5077591	36.1211586	36.8049698	36.4125786	36.1489906
21.9406605	22.08638	20	22.4366493	20	22.1005001	22.8880291
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26.4601193	26.5947704	26.309	25.6493797	26.5484009	26.4800797	25.9832707
24.7786102	24.6509705	24.6065903	24.9668407	24.5953693	24.5808392	24.9650803
20	26.4890404	25.0992909	25.1728706	23.3737202	25.0466003	26.4713001
25.6999607	25.5030003	25.4880295	25.3918495	25.7129002	25.5836201	25.4491596
28.9077301	29.7804699	28.7758694	27.2059193	27.89608	28.80793	28.0906296
31.2354107	30.97398	31.0102501	30.8832893	30.8012409	31.1069298	31.1675797
28.0259609	28.1913605	27.5205803	28.0092907	27.5186291	27.8409805	27.9507694
27.8890801	27.4232597	26.9912891	27.7857494	26.9408894	27.407301	27.5723209
29.1812	29.0817509	27.8555508	29.5303307	27.2157707	29.1103592	30.0378704
29.1655197	28.6854897	28.48769	29.6373406	28.7728195	29.0419502	29.7923107
27.9816895	28.4648209	28.1670609	28.1965294	28.0731106	28.1302605	28.1523304
26.7240295	26.0830402	27.3065205	26.67169	26.94804	26.3908005	26.5294609
29.7123509	29.5649796	29.0765801	30.0429592	29.3241196	29.91185	30.3725395
27.3316803	27.3126793	27.6594906	27.3631897	27.5630398	27.4077892	27.3446903
24.3348408	20	24.0341396	24.1321793	20	24.3766308	25.7950897
25.7469692	25.8820095	25.6831093	25.3765698	25.7209301	25.3929691	25.8020306
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24.0663605	25.7832394	24.1442909	20	24.3904095	23.51437	24.16959
28.2971497	28.3216095	27.8134193	28.1903191	27.8883209	28.1948395	28.5170593
26.5324497	25.60326	26.5893498	25.9242001	26.2273808	25.8997498	25.7849693
25.0138893	20	25.6168594	26.1324406	24.7119808	24.7354698	24.5135193
28.0528393	27.8445206	27.8506699	28.0070992	27.8240795	27.6846504	28.2628002
23.0539608	24.1987305	25.2736301	23.7120895	24.9765301	20	24.4593906
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27.8962593	27.6921902	28.31674	28.3740597	28.3848	27.8686791	27.9751396
26.9233208	26.7453499	26.2329693	26.5069695	26.23279	26.4104404	27.1418991
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24.6287899	25.4223003	24.7091503	24.6908798	24.7429905	24.8916206	25.2141895
26.5261192	26.3367996	25.7242699	26.5075798	26.45961	26.4424	26.7164593
26.0625591	26.8572102	24.6091309	26.0888596	24.1047802	26.0237103	26.02071

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27.6128807	27.2192802	27.7019997	26.74996	26.7528992	26.9371891	27.6291599
27.6087208	27.3814602	27.9069595	28.1457405	27.6586704	27.6867199	28.0018997
26.2844906	25.8478508	26.8758392	26.02775	26.3150291	26.1875401	26.3323593
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28.6060104	28.9392395	28.1750298	29.3304806	27.5282803	28.9534092	29.7336197
25.3023605	20	20	24.7839699	20	24.3535309	24.1050205
20	26.0083199	26.0578194	25.5444508	20	24.5607491	25.2227707
27.2507896	27.3905106	26.5186501	27.5210304	26.6737099	27.6045609	28.0097694
27.3383293	26.9204807	27.3911591	27.20751	27.1284905	27.3211308	27.1677704
28.2432709	28.2726708	25.2779198	28.1995297	25.1752396	27.9939404	28.8924408
29.3636704	29.2850704	29.6505795	29.6433392	29.3782005	29.4873695	29.5732594
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25.8933296	28.5730801	25.9353695	26.5073509	25.4185104	27.1365299	26.1583691
20	20	26.8822708	25.4731102	23.7003899	22.8064404	24.9943008
27.7170506	27.8019295	27.6116791	27.5650692	27.8565598	27.4827805	27.5800304
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27.6883297	27.3584194	27.5914192	27.5374203	27.6639099	27.4265404	27.5839806
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28.6888294	28.5676899	28.8356895	28.6521492	28.4735603	28.7815704	28.7068806
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27.7776909	27.7290993	27.1687298	27.47468	27.7488709	27.3660297	27.6417503
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26.6831093	26.2302494	27.0076408	26.2052307	27.9254093	26.0895195	25.9717999
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26.2071304	25.9025402	25.8355198	25.9687691	25.4361897	26.2511292	25.9696102
27.1778793	25.7074394	26.8636093	26.9805508	25.7997608	26.8229904	26.6964397
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28.7762394	28.7310391	29.2271996	29.1638908	28.9056702	29.0295696	29.1266499
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27.0894203	27.1513195	26.45858	26.6712799	26.0359306	27.2698994	27.4033203
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29.4207707	29.8079796	30.1244793	29.7622299	30.1977692	29.8740807	29.4615498
27.4524593	26.7778091	25.9736195	26.9306698	26.0638409	26.8685608	27.1210995
28.0139809	28.6128807	28.3168297	28.4608002	28.3512306	28.47472	28.1405392
27.4944191	28.3597603	27.6184902	27.5423698	27.5705795	27.4781609	28.0293407
24.8180695	24.4980793	20	24.5301094	20	24.1421909	24.5149708
24.7345409	24.0903893	20	24.3505001	20	24.3623905	24.7497501
27.5356407	27.3654499	25.6887493	27.5257397	25.6955395	27.2975407	28.4408302
27.1189194	26.2046909	25.9207497	27.1306496	26.1535206	26.6889896	27.2679405
24.8862305	25.3808308	23.5129204	24.0938606	24.4321194	24.2945995	24.2971897
24.6449299	20	24.4742603	25.5146103	20	24.1607704	24.8046894
23.5523891	24.2524109	20	23.0313702	20	23.8012409	23.3701305
26.32757	26.0498905	20	27.0291805	20	27.3896904	27.5394898
29.47719	29.4250393	28.7748909	29.08568	28.8012505	29.2520504	29.3854199
25.9970303	26.6609898	25.7862892	25.3155499	26.3411999	25.1745892	25.9665508
26.0559406	27.1555691	20	26.3839207	25.9713593	20	26.3993206
23.8824101	20	24.1343002	23.8752995	24.17836	24.0122299	24.2985191
24.5765209	23.6783104	20	24.4135094	24.0742302	23.44771	20
29.7336502	29.9345207	29.8297005	29.9423809	29.8180409	29.8007793	29.7816601
27.8398399	26.6594906	27.22398	27.1935692	27.6455402	27.0754108	26.8543606
30.2555199	30.2355804	30.3904896	30.5145607	30.2435398	30.1504993	30.4183006
32.0481415	31.8668098	31.4684506	31.7619991	31.5313892	31.8335705	32.1731911
27.0531006	26.5718994	26.7449608	26.83111	26.7089901	26.7010803	27.4758396
24.8794193	20	24.6258907	24.7421207	20	24.8924503	25.05933
23.8501492	24.3826504	24.4098892	24.2165299	25.36903	24.1126709	23.7646599
24.8382206	25.0579205	20	24.8988304	20	24.5853691	25.1805191
28.7082005	28.74926	28.6291294	28.9889908	28.6161404	28.5324097	28.89851
28.5921001	28.3437595	29.0321808	28.3197594	28.4151402	28.5596905	28.4849701
24.5683708	23.1755409	28.3661099	25.4064903	25.1410599	25.9011993	24.5687695
29.2304096	28.79739	28.7983208	28.98106	28.8924103	29.0670509	28.9759903
29.1643505	29.2624893	28.3087292	29.2998104	28.5673599	29.1594696	29.6820698
27.8269291	27.8285103	26.1882591	28.0426998	26.6731701	27.6122398	28.1555195
24.6342297	24.5102692	20	24.6773396	20	24.5992909	25.6635704
27.1178303	26.0866699	20	25.1021309	24.7487297	24.4204693	24.9836807
25.5510407	25.9039593	20	25.6299801	20	26.1923504	26.2980709
25.4033108	25.0856209	20	25.4840698	26.0755291	20	25.4495697
32.4163895	32.8743591	32.5267296	31.9807396	32.3314591	32.6615715	32.4482002
24.8771305	25.6063404	24.8829708	25.2942104	24.6280594	25.1047802	25.4898109

26.2952805	27.3624401	25.3693008	26.0869293	24.6385994	26.0286102	27.0962791
34.60923	34.9549294	35.0572205	34.8451614	35.0676804	34.8505707	34.6275597
25.6343708	25.4086304	20	26.4150906	25.3374901	20	25.5853691
27.6333294	26.9152508	26.9819603	27.1140595	27.1561508	27.1331997	27.2384491
20	24.1791191	24.1654606	24.4798794	24.1375103	20	24.2506104
28.5303993	29.17836	28.2383099	28.99259	28.1265202	28.4166298	29.0831204
31.1373005	31.1498299	31.7157097	31.3554192	31.4467793	31.2846603	31.0625897
29.0378704	28.6769695	27.9075909	29.1383209	27.9256992	28.9944801	29.5676899
24.1465492	24.6376591	20	23.1930809	24.8049393	23.8800793	20
29.1444302	29.2804699	28.4830799	28.77985	28.9103108	28.5906391	29.0565395
23.6781998	23.4372101	20	23.7016602	20	23.4523697	23.4509792
32.0723991	31.9272709	31.6645393	32.0641594	31.5264492	32.0403595	32.2833405
20	27.3131104	25.8268204	25.2294197	20	26.2434292	26.2964001
26.4915009	25.3469601	20	26.1987705	20	25.8431397	27.7251396
27.1977902	26.7574806	26.9864197	27.5441399	26.65308	27.3024292	27.6490402
27.6699295	27.4315701	26.1596794	27.5833397	26.7860603	26.9806595	27.4857006
25.6192493	24.1588497	20	24.59412	20	24.5074291	25.3800106
29.1523094	28.2521	28.8526993	29.3451691	28.6688194	28.7082005	29.1450596
26.1874695	26.3864002	20	26.8798199	20	26.7916603	27.3878803
27.5879192	28.0499401	26.4870796	27.8973503	27.1686306	27.3262901	27.8564396
20	25.2985191	23.5797997	24.7075691	20	23.9461899	24.8584709
24.8631592	24.5352802	20	24.5619698	20	24.1440601	24.9229298
26.8917999	26.1714993	25.5474491	27.3339005	26.1996307	26.4374905	27.0487404
23.3301907	20	24.1726494	23.9158802	20	23.2089996	23.9818993
25.0399704	24.9218407	20	25.0305309	20	25.0787907	25.2514801
23.7752495	24.0637302	20	23.5869198	20	23.85462	24.1378994
25.5567799	20	24.7639008	25.6126308	20	25.2036705	25.5818195
28.3108997	28.7810993	29.0832195	28.9197102	28.3062191	28.7989693	29.0940895
20	28.0275497	23.5170097	20	23.1409302	20	23.91506
24.1937809	20	23.8557606	24.2593308	20	24.0131607	24.3713207
25.7093296	25.4847508	26.5425892	25.8984394	26.3439407	26.2889099	25.4591694
25.7519798	24.9252396	20	25.8113003	20	25.7007294	26.3907394
27.0426998	28.68083	26.3808708	27.1826191	26.5834808	27.1890507	27.7884293
20	24.7843704	24.3109798	24.3554192	20	24.43116	24.3599091
27.8374996	28.0909901	26.8524609	27.1682491	27.1212902	27.9008102	27.5907803
27.7537308	26.9321308	26.5291405	27.1555691	26.9060993	26.7972393	27.3586693
29.1564102	29.1853199	28.38554	28.7387009	29.2143097	28.5909195	28.90802
24.8205109	23.9652596	23.8853893	20	24.2818508	23.7273293	20
26.9986305	27.22398	26.9232006	26.9238796	27.3013802	27.0710201	26.9097595
25.5677891	23.8245392	26.3442593	25.3942795	24.5619202	25.7839699	24.3908005
30.4657707	30.2619209	30.8385296	29.6853695	29.9998093	30.6307907	30.0349903

28.7410107	28.8569508	27.9345493	28.6336002	28.1746502	28.7362499	28.7739792
25.0109901	24.8564301	24.7488804	24.5710297	24.2950192	24.8327293	25.2076492
20	24.2028408	24.2041893	24.7031403	20	24.1013298	24.5129795
27.3918991	27.2604199	27.65205	27.4372196	27.1387806	27.3554802	27.7519398
31.4290199	31.3474693	31.1403503	31.8817196	30.3789597	31.5823498	32.3679199
24.7014999	25.5654602	23.2790909	23.6588402	23.3245697	24.4573193	24.2061291
27.9394894	20	29.8667297	29.2870293	20	28.2261391	28.3458309
26.4146595	26.6048393	20	26.7422695	20	27.0810108	27.2456303
29.3689899	29.8550892	29.5034905	30.3181896	29.0440102	29.8861408	30.5899601
34.7596092	35.0956917	35.0156288	34.7669296	35.1811981	34.9288406	34.6406517
28.6115799	29.0538006	28.1128197	28.3391304	28.5453892	28.1096897	28.4004803
26.1445503	25.7853108	26.5226898	25.9665299	26.0958901	25.9837894	26.3379192
26.87537	26.8594608	26.3691597	26.9595909	26.0772495	26.8677292	27.3183804
27.6010895	27.5155506	25.8371391	28.1247997	26.0280609	27.9187203	28.6284695
#!{C:expmt}w	w- (1day)	w- (1day)	w- (1day)	M2- (1day)	M2- (1day)	M2- (1day)

M2-4 (1day)	Student's T-te	Student's T-te	Unique + razc	Mol. weight [	Q-value	Score
E	C	C	N	N	N	N
20	+	w- (1day)_M2	11.1	47.993	0	2.9348
27.2615891	+	w- (1day)_M2	25.5	32.83	0	69.41
20	+	w- (1day)_M2	16.2	57.728	0	24.538
25.0482693	+	w- (1day)_M2	17.2	45.401	0	16.946
20	+	w- (1day)_M2	36.6	29.93	0	34.605
26.1022301	+	w- (1day)_M2	14.5	99.25	0	39.175
24.7505207	+	w- (1day)_M2	36.2	39.527	0	46.283
23.0343609	+	w- (1day)_M2	13.6	53.369	0	83.986
25.0941391	+	w- (1day)_M2	21.8	40.309	0	1.6869
20	+	w- (1day)_M2	41.5	26.534	0	34.017
27.5834808	+	w- (1day)_M2	0.6	941.12	0	23.943
26.9953995	+	w- (1day)_M2	45.3	18.408	0	16.995
20	+	w- (1day)_M2	23.5	43.729	0	14.758
20	+	w- (1day)_M2	9.1	62.436	0	6.7081
23.4444294	+	w- (1day)_M2	3.2	68.305	0	3.4454
25.6163292	+	w- (1day)_M2	25.5	56.153	0	75.078
20	+	w- (1day)_M2	4.5	44.901	0	41.695
24.3495598	+	w- (1day)_M2	3.1	426.15	0.0019182	0.70624
24.5555496	+	w- (1day)_M2	16.8	37.083	0	59.53
24.3764992	+	w- (1day)_M2	12.2	55.885	0	2.2616
25.3124409	+	w- (1day)_M2	28.5	62.648	0	48.08
25.7897701	+	w- (1day)_M2	59.3	39.988	0	38.26
26.3197594	+	w- (1day)_M2	27.4	19.065	0	30.711
20	+	w- (1day)_M2	13.2	61.086	0	2.4435
24.6090202	+	w- (1day)_M2	24.5	36.581	0	10.076
23.5184498	+	w- (1day)_M2	5.4	83.61	0	23.879
28.0876999	+	w- (1day)_M2	69.2	215.06	0	323.31
24.4365101	+	w- (1day)_M2	34.6	155.78	0	114.02
24.7971401	+	w- (1day)_M2	11	38.737	0.018245	-0.72073
26.0136509	+	w- (1day)_M2	41.2	52.985	0	323.31
24.87117	+	w- (1day)_M2	60.3	49.215	0	323.31
33.3504791	+	w- (1day)_M2	67.4	41.666	0	277.59
23.6672001	+	w- (1day)_M2	27.4	76.789	0	46.973
25.1115208	+	w- (1day)_M2	36.5	103.63	0	65.675
30.0735493	+	w- (1day)_M2	43.9	245.5	0	323.31
26.27948	+	w- (1day)_M2	40.6	32.826	0	323.31
28.6224003	+	w- (1day)_M2	39.2	183.22	0	323.31
20.6195297	+	w- (1day)_M2	45.5	63.551	0	73.059
24.5135193	+	w- (1day)_M2	18.6	25.178	0	31.621

33.0429306	+	w- (1day)_M2	53.1	1358.4	0	323.31
20	+	w- (1day)_M2	40.7	22.488	0	9.6595
27.6651306	+	w- (1day)_M2	43.6	54.034	0	253.09
25.5086708	+	w- (1day)_M2	44.3	88.414	0	203.94
24.2123795	+	w- (1day)_M2	55.3	38.085	0	90.255
20	+	w- (1day)_M2	11.5	53.142	0	4.3191
29.595501	+	w- (1day)_M2	41.4	35.944	0	113.95
24.6807308	+	w- (1day)_M2	1.3	224.61	0	3.454
25.0224209	+	w- (1day)_M2	39.3	25.691	0	45.718
23.9050903	+	w- (1day)_M2	21.2	57.461	0	33.656
32.9603691	+	w- (1day)_M2	79	51.854	0	323.31
30.0378704	+	w- (1day)_M2	49.2	106.93	0	323.31
27.4962502	+	w- (1day)_M2	24.7	58.214	0	132.93
27.6846504	+	w- (1day)_M2	50	51.121	0	38.944
27.1991997	+	w- (1day)_M2	39.7	49.673	0	98.483
26.82687	+	w- (1day)_M2	23.7	80.2	0	19.13
28.5901699	+	w- (1day)_M2	67.9	21.309	0	169.95
29.8479691	+	w- (1day)_M2	57.5	68.36	0	167.04
32.7911606	+	w- (1day)_M2	72.8	475.65	0	323.31
30.9307194	+	w- (1day)_M2	1.6	224.28	0	29.546
29.9949608	+	w- (1day)_M2	56.3	81.814	0	296.61
28.0436401	+	w- (1day)_M2	45.1	120.19	0	323.31
27.7171803	+	w- (1day)_M2	47.3	16.562	0	272.21
28.3035603	+	w- (1day)_M2	52.5	13.75	0	58.778
27.1853695	+	w- (1day)_M2	43.1	12.234	0	115.78
27.3456192	+	w- (1day)_M2	25.7	50.544	0	96.946
27.2741795	+	w- (1day)_M2	26	41.34	0	28.64
27.2701702	+	w- (1day)_M2	80.4	30.113	0	312.81
27.7026596	+	w- (1day)_M2	33.1	51.994	0	323.31
28.2688294	+	w- (1day)_M2	35.9	45.985	0	98.459
27.2671394	+	w- (1day)_M2	52	11.413	0	70.992
33.99757	+	w- (1day)_M2	78.3	27.613	0	323.31
25.0682907	+	w- (1day)_M2	38.7	34.064	0	38.211
32.2171707	+	w- (1day)_M2	55.2	82.013	0	323.31
25.9896507	+	w- (1day)_M2	30.6	64.907	0	168.67
30.8557091	+	w- (1day)_M2	59.3	69.859	0	323.31
26.30023	+	w- (1day)_M2	46	44.526	0	57.63
27.7250099	+	w- (1day)_M2	31.5	43.47	0	46.9
28.3503895	+	w- (1day)_M2	49.4	83.508	0	156.87
24.1946793	+	w- (1day)_M2	11.8	26.229	0	9.9915
26.7114792	+	w- (1day)_M2	22.2	83.58	0	66.126

24.9814606 +	w- (1day)_M2	41.8	74.63	0	132.95
27.9870091 +	w- (1day)_M2	36.1	57.863	0	114.11
27.1274109 +	w- (1day)_M2	21.7	95.187	0	16.995
33.104641 +	w- (1day)_M2	56.9	580.49	0	323.31
27.0702992 +	w- (1day)_M2	20.9	17.877	0	11.916
27.3909206 +	w- (1day)_M2	6.4	36.355	0	5.4705
29.7862301 +	w- (1day)_M2	60.1	77.962	0	265.93
29.3204308 +	w- (1day)_M2	39.7	291.55	0	323.31
26.4644108 +	w- (1day)_M2	36.6	80.235	0	48.637
29.0400105 +	w- (1day)_M2	51.2	106.3	0	323.31
27.54562 +	w- (1day)_M2	15.3	68.96	0	45.895
27.4035702 +	w- (1day)_M2	34.1	34.112	0	72.672
29.3663406 +	w- (1day)_M2	61.8	81.398	0	323.31
27.6907291 +	w- (1day)_M2	20.2	92.656	0	22.452
29.2914906 +	w- (1day)_M2	66.1	21.777	0	138.59
28.8289909 +	w- (1day)_M2	74.5	22.994	0	323.31
32.5413513 +	w- (1day)_M2	10.5	32.745	0	157.49
29.4125404 +	w- (1day)_M2	72.3	14.502	0	118.49
25.2679901 +	w- (1day)_M2	23.2	48.418	0	29.251
26.6511593 +	w- (1day)_M2	48	39.488	0	74.061
31.6356392 +	w- (1day)_M2	85.5	33.644	0	323.31
26.9054108 +	w- (1day)_M2	42.9	36.698	0	219.77
30.6650906 +	w- (1day)_M2	72.3	43.378	0	227.22
27.5724602 +	w- (1day)_M2	41.7	46.283	0	129.87
26.9193401 +	w- (1day)_M2	36.5	66.363	0	94.537
25.2290897 +	w- (1day)_M2	22.9	52.469	0	24.819
24.7293606 +	w- (1day)_M2	21	42.733	0	27.162
27.1740799 +	w- (1day)_M2	44.3	74.472	0	51.806
26.6474609 +	w- (1day)_M2	40.7	144.52	0	227.38
27.1386795 +	w- (1day)_M2	28.9	49.058	0	52.13
27.9154205 +	w- (1day)_M2	32.9	35.295	0	103.26
25.7287407 +	w- (1day)_M2	21.5	99.299	0	18.075
29.1834507 +	w- (1day)_M2	57.7	81.936	0	274.1
26.5943394 +	w- (1day)_M2	34.7	28.336	0	133.3
28.7228603 +	w- (1day)_M2	17.7	886.48	0	169.88
26.7558308 +	w- (1day)_M2	14.9	68.023	0	16.912
30.8205395 +	w- (1day)_M2	49.1	48.604	0	201.69
26.0989494 +	w- (1day)_M2	38	38.175	0	20.26
26.5031109 +	w- (1day)_M2	50	10.961	0	22.067
30.5250492 +	w- (1day)_M2	55.6	68.593	0	323.31
26.2649899 +	w- (1day)_M2	36.7	22.197	0	24.718

25.6815109 +	w- (1day)_M2	22.3	74.627	0	73.227
25.1753902 +	w- (1day)_M2	14.7	37.136	0	4.6318
28.3105106 +	w- (1day)_M2	28	63.596	0	107.02
28.2079697 +	w- (1day)_M2	58.9	10.031	0	58.332
26.0062904 +	w- (1day)_M2	36.2	29.986	0	61.818
23.8833408 +	w- (1day)_M2	10.5	97.885	0	16.494
29.5890293 +	w- (1day)_M2	67.3	74.301	0	323.31
26.1104393 +	w- (1day)_M2	81	17.088	0	175.25
31.1834106 +	w- (1day)_M2	66.9	57.018	0	323.31
26.6715508 +	w- (1day)_M2	70.4	43.766	0	300.81
25.7974606 +	w- (1day)_M2	69.2	14.14	0	135.71
29.7356796 +	w- (1day)_M2	42.7	50.354	0	163.3
25.3467503 +	w- (1day)_M2	18.8	64.297	0	16.151
26.9044895 +	w- (1day)_M2	80.4	31.104	0	183.08
27.3630199 +	w- (1day)_M2	68.4	36.343	0	84.201
23.3378296 +	w- (1day)_M2	15	226.65	0	142.82
25.025631 +	w- (1day)_M2	31.3	64.686	0	99.664
27.4232597 +	w- (1day)_M2	49.7	18.22	0	14.877
24.49259 +	w- (1day)_M2	30.3	55.287	0	54.747
27.7865601 +	w- (1day)_M2	42.7	109.71	0	323.31
30.53092 +	w- (1day)_M2	63.7	24.481	0	255.05
25.6831703 +	w- (1day)_M2	59.4	11.593	0	29.508
27.6845894 +	w- (1day)_M2	66.2	51.996	0	55.258
28.4140492 +	w- (1day)_M2	52.2	25.702	0	93.307
20 +	w- (1day)_M2	31.7	35.603	0	68.643
30.4306202 +	w- (1day)_M2	60.9	55.37	0	323.31
27.6062508 +	w- (1day)_M2	9.9	574.84	0	97.492
27.2606907 +	w- (1day)_M2	53.2	23.705	0	70.389
27.5484104 +	w- (1day)_M2	56.4	30.211	0	49.051
27.80937 +	w- (1day)_M2	51.7	45.715	0	127.97
27.5892792 +	w- (1day)_M2	39.2	49.254	0	138.02
25.1971893 +	w- (1day)_M2	0.6	992.51	0	197.14
28.6290608 +	w- (1day)_M2	56.2	31.909	0	104.52
29.2199001 +	w- (1day)_M2	38.8	54.385	0	323.31
31.7244797 +	w- (1day)_M2	71.4	266.44	0	323.31
28.4937706 +	w- (1day)_M2	53.4	59.742	0	223.59
32.1802712 +	w- (1day)_M2	73.7	50.306	0	323.31
26.8862305 +	w- (1day)_M2	23.3	27.796	0	14.498
31.8233509 +	w- (1day)_M2	62.6	53.992	0	323.31
27.0058193 +	w- (1day)_M2	38.8	31.703	0	18.519
29.2883301 +	w- (1day)_M2	59.5	33.935	0	198.84

30.3788605	+	w- (1day)_M2	56.4	68.641	0	323.31
28.3994198	+	w- (1day)_M2	56.3	50.984	0	323.31
27.4060898	+	w- (1day)_M2	41.4	22.795	0	25.902
28.90979	+	w- (1day)_M2	72	53.163	0	286.18
27.2158604	+	w- (1day)_M2	54.3	27.232	0	76
29.5341892	+	w- (1day)_M2	64.7	45.366	0	323.31
26.5000095	+	w- (1day)_M2	45.5	29.702	0	60.305
31.4717407	+	w- (1day)_M2	52.6	17.94	0	191.98
27.3150997	+	w- (1day)_M2	50.9	41.794	0	323.31
25.7775898	+	w- (1day)_M2	15.4	178.14	0	92.118
26.9526005	+	w- (1day)_M2	31.7	42.519	0	66.568
30.4171009	+	w- (1day)_M2	41.8	80.355	0	269.63
30.5363998	+	w- (1day)_M2	64.8	96.996	0	323.31
28.0008907	+	w- (1day)_M2	30	50.653	0	80.291
26.7175102	+	w- (1day)_M2	34.9	34.337	0	76.697
26.1701603	+	w- (1day)_M2	14.9	29.849	0	19.266
27.1430702	+	w- (1day)_M2	48.2	257.44	0	323.31
25.5285606	+	w- (1day)_M2	39.5	19.733	0	24.562
27.0087109	+	w- (1day)_M2	38.1	32.759	0	176.61
26.1873703	+	w- (1day)_M2	18.8	35.391	0	12.877
26.5990391	+	w- (1day)_M2	15.3	91.987	0	51.302
32.41996	+	w- (1day)_M2	40.8	26.19	0	246.42
30.2623692	+	w- (1day)_M2	38.7	282.6	0	323.31
34.2031097	+	w- (1day)_M2	66.4	35.318	0	323.31
34.9775391	+	w- (1day)_M2	78.5	102.34	0	323.31
24.2550793	+	w- (1day)_M2	4.8	42.24	0.00032819	1.1812
24.6569805	+	w- (1day)_M2	61.6	35.15	0	56.965
27.2747994	+	w- (1day)_M2	51.5	21.271	0	82.971
26.5074692	+	w- (1day)_M2	56.1	45.555	0	114.43
28.4278202	+	w- (1day)_M2	47.2	58.313	0	323.31
29.7031307	+	w- (1day)_M2	55.5	191.18	0	323.31
27.3379002	+	w- (1day)_M2	37.9	60.911	0	140.54
26.1675797	+	w- (1day)_M2	40.2	81.628	0	127.71
27.7205792	+	w- (1day)_M2	48.8	37.955	0	170.91
28.8680306	+	w- (1day)_M2	65.8	44.33	0	157.69
26.7158108	+	w- (1day)_M2	45.3	76.788	0	70.515
29.5729294	+	w- (1day)_M2	60.3	61.874	0	245.19
27.6037102	+	w- (1day)_M2	36	79.233	0	166.78
24.0004101	+	w- (1day)_M2	22.4	10.104	0.00032992	1.2533
24.3052197	+	w- (1day)_M2	15.3	56.706	0	4.5694
26.7893009	+	w- (1day)_M2	28.4	72.797	0	76.592

30.7532597 +	w- (1day)_M2	79.9	55.058	0	323.31
30.3115997 +	w- (1day)_M2	62.8	43.597	0	227.88
28.2400894 +	w- (1day)_M2	51.9	38.374	0	218.98
28.6543407 +	w- (1day)_M2	58.5	29.703	0	108.49
29.9084206 +	w- (1day)_M2	38.4	36.336	0	144.09
26.5106392 +	w- (1day)_M2	34.6	15.628	0	2.7714
26.5880604 +	w- (1day)_M2	67.5	19.116	0	131.82
30.3362808 +	w- (1day)_M2	44.2	49.671	0	323.31
26.0218697 +	w- (1day)_M2	40.1	31.86	0	139.97
26.5798893 +	w- (1day)_M2	52.3	16.86	0	42.703
26.6949806 +	w- (1day)_M2	41.9	60.346	0	284.6
32.9676094 +	w- (1day)_M2	62.9	43.891	0	323.31
28.4861603 +	w- (1day)_M2	68.8	29.216	0	67.379
25.0191193 +	w- (1day)_M2	14.5	73.599	0	12.081
27.4620094 +	w- (1day)_M2	5.9	36.101	0.00033344	1.4126
30.7981491 +	w- (1day)_M2	76.3	27.217	0	323.31
28.3915691 +	w- (1day)_M2	50.2	52.708	0	215.51
26.6349201 +	w- (1day)_M2	38	21.354	0	24.69
35.2152405 +	w- (1day)_M2	41.9	2102.8	0	323.31
27.7453499 +	w- (1day)_M2	53.2	17.4	0	67.691
26.2139893 +	w- (1day)_M2	56.1	21.875	0	12.214
30.4890308 +	w- (1day)_M2	55	226.91	0	323.31
29.0742607 +	w- (1day)_M2	54.8	51.074	0	191.12
29.2037106 +	w- (1day)_M2	53.2	13.363	0	190.75
26.5572796 +	w- (1day)_M2	65	15.545	0	20.182
24.1364098 +	w- (1day)_M2	17.9	44.104	0	4.3316
27.4830799 +	w- (1day)_M2	67.9	48.541	0	222.89
27.8760204 +	w- (1day)_M2	34.3	71.811	0	47.613
26.6790905 +	w- (1day)_M2	53.9	50.017	0	126.79
27.9748192 +	w- (1day)_M2	40.8	25.14	0	103.99
28.9004097 +	w- (1day)_M2	68.2	17.037	0	147.49
25.3303299 +	w- (1day)_M2	35.5	24.646	0	85.838
25.3981991 +	w- (1day)_M2	34.5	25.495	0	85.854
25.4545307 +	w- (1day)_M2	10.4	47.884	0	11.656
24.6136398 +	w- (1day)_M2	11.6	73.056	0	18.767
26.1995697 +	w- (1day)_M2	27.7	91.371	0	70.726
25.1738701 +	w- (1day)_M2	15.4	113.1	0	55.969
25.6358604 +	w- (1day)_M2	36.1	107.41	0	215.27
28.6835098 +	w- (1day)_M2	61.3	15.857	0	97.879
31.2043209 +	w- (1day)_M2	69.9	13.134	0	129.26
26.5523796 +	w- (1day)_M2	53.9	34.4	0	50.105

30.8247204 +	w- (1day)_M2	79.9	21.647	0	246.35
34.5692101 +	w- (1day)_M2	68.7	119.66	0	323.31
28.38521 +	w- (1day)_M2	49.7	40.298	0	66.112
24.3178997 +	w- (1day)_M2	28.1	66.2	0	38.488
28.7101402 +	w- (1day)_M2	64.3	12.453	0	9.6145
25.47859 +	w- (1day)_M2	52.3	57.741	0	124.44
27.0690708 +	w- (1day)_M2	71.7	36.862	0	207.24
26.4481792 +	w- (1day)_M2	12.6	183.99	0	93.003
31.1796703 +	w- (1day)_M2	48.4	32.023	0	323.31
25.5660992 +	w- (1day)_M2	33.9	32.416	0	64.969
27.9859295 +	w- (1day)_M2	60.6	46.509	0	307.05
27.7512398 +	w- (1day)_M2	39.9	27.574	0	126.55
35.231739 +	w- (1day)_M2	81	32.806	0	323.31
28.8042393 +	w- (1day)_M2	75.4	70.672	0	323.31
28.2592602 +	w- (1day)_M2	37.9	9.8623	0	7.4788
26.2421093 +	w- (1day)_M2	40.8	42.747	0	152.72
31.1995792 +	w- (1day)_M2	30.6	22.03	0	151.53
29.3786507 +	w- (1day)_M2	22.6	411.13	0	298.62
27.7746105 +	w- (1day)_M2	33.9	71.278	0	80.467
26.4492703 +	w- (1day)_M2	59.8	13.883	0	52.386
32.5069199 +	w- (1day)_M2	70.8	10.093	0	32.781
30.1700897 +	w- (1day)_M2	48.6	49.158	0	275.19
33.5521317 +	w- (1day)_M2	70.2	53.084	0	323.31
30.1218891 +	w- (1day)_M2	3	224.59	0	269.98
26.8101692 +	w- (1day)_M2	71.9	34.619	0	72.866
25.7141094 +	w- (1day)_M2	28.4	62.824	0	66.897
26.0804195 +	w- (1day)_M2	26.7	17.696	0	12.135
33.6244011 +	w- (1day)_M2	72.6	60.808	0	323.31
24.7704201 +	w- (1day)_M2	53.7	35.735	0	106.55
27.0329704 +	w- (1day)_M2	51.1	44.861	0	148.13
26.6802998 +	w- (1day)_M2	54.7	17.372	0	44.443
29.5428295 +	w- (1day)_M2	54.2	65.106	0	323.31
25.8238602 +	w- (1day)_M2	35.3	51.878	0	39.645
26.0166092 +	w- (1day)_M2	31.8	50.488	0	124.17
29.2451305 +	w- (1day)_M2	38.6	122.68	0	323.31
28.0025501 +	w- (1day)_M2	54.9	31.965	0	133.02
27.07337 +	w- (1day)_M2	61.5	28.62	0	72.828
33.0987701 +	w- (1day)_M2	69.4	74.065	0	323.31
28.9144497 +	w- (1day)_M2	55.4	45.757	0	323.31
28.1013908 +	w- (1day)_M2	36.4	49.376	0	83.393
25.8125992 +	w- (1day)_M2	32.8	34.868	0	28.591

28.1391697 +	w- (1day)_M2	35.5	17.52	0	54.492
24.8652802 +	w- (1day)_M2	7.3	95.595	0	6.5725
27.9770508 +	w- (1day)_M2	78.1	21.723	0	126.59
32.5190392 +	w- (1day)_M2	67	157.26	0	323.31
30.5731697 +	w- (1day)_M2	22.1	24.377	0	201.29
26.3997898 +	w- (1day)_M2	11.1	279.19	0	74.833
26.8278408 +	w- (1day)_M2	26	23.336	0	23.853
29.5020104 +	w- (1day)_M2	64.6	45.787	0	323.31
25.3368092 +	w- (1day)_M2	22.1	29.094	0	11.529
32.6715813 +	w- (1day)_M2	28.7	41.834	0	323.31
26.4000492 +	w- (1day)_M2	35.5	56.758	0	120
31.7145309 +	w- (1day)_M2	74.1	11.734	0	74.815
26.7224693 +	w- (1day)_M2	50.1	49.323	0	299.15
29.6522102 +	w- (1day)_M2	37.6	44.395	0	323.31
27.2403603 +	w- (1day)_M2	63	45.857	0	283.45
29.9493504 +	w- (1day)_M2	53.3	16.972	0	110.53
29.1417809 +	w- (1day)_M2	31.5	23.998	0	79.78
27.3309097 +	w- (1day)_M2	40.8	44.419	0	44.153
28.8033505 +	w- (1day)_M2	66.2	53.222	0	301.8
25.9072895 +	w- (1day)_M2	24.2	29.153	0	130.43
20 +	w- (1day)_M2	7.4	54.648	0	3.4328
28.6822109 +	w- (1day)_M2	64.9	26.571	0	135.19
27.5505409 +	w- (1day)_M2	24.3	60.534	0	116.13
26.514391 +	w- (1day)_M2	58.6	34.556	0	46.276
30.2714195 +	w- (1day)_M2	69	46.808	0	323.31
26.1073303 +	w- (1day)_M2	25.4	60.099	0	12.697
31.9837303 +	w- (1day)_M2	58.4	372.67	0	323.31
33.848011 +	w- (1day)_M2	77.1	93.407	0	323.31
20 +	w- (1day)_M2	14.5	97.172	0	10.763
28.1919193 +	w- (1day)_M2	35.7	80.65	0	69.123
26.1091499 +	w- (1day)_M2	39.1	31.363	0	45.828
25.9025402 +	w- (1day)_M2	55.7	30.225	0	102.71
33.658001 +	w- (1day)_M2	54.9	238.06	0	323.31
27.4506493 +	w- (1day)_M2	17	151.58	0	35.249
24.9386292 +	w- (1day)_M2	36.2	36.669	0	47.766
26.9499397 +	w- (1day)_M2	25.2	113.68	0	47.111
26.9760704 +	w- (1day)_M2	57.2	60.305	0	149.48
24.7922802 +	w- (1day)_M2	30.7	49.869	0	313.07
26.4789295 +	w- (1day)_M2	58	17.617	0	14.306
30.8878002 +	w- (1day)_M2	64.6	41.61	0	323.31
31.3353806 +	w- (1day)_M2	53.7	72.26	0	323.31

29.8624802	+	w- (1day)_M2	53.5	29.014	0	304.01
31.4604092	+	w- (1day)_M2	73.1	37.28	0	140.25
27.8419399	+	w- (1day)_M2	38.6	87.408	0	47.747
25.956461	+	w- (1day)_M2	28.2	66.73	0	145.65
25.206461	+	w- (1day)_M2	21.7	57.376	0	13.356
26.8885498	+	w- (1day)_M2	45.5	51.162	0	91.56
26.9539394	+	w- (1day)_M2	34.9	35.743	0	114.37
33.8813095	+	w- (1day)_M2	65.1	43.201	0	323.31
31.6114006	+	w- (1day)_M2	80.2	55.78	0	323.31
30.0415306	+	w- (1day)_M2	64.4	17.188	0	302.76
25.5084209	+	w- (1day)_M2	33.1	12.868	0	5.7431
26.1678696	+	w- (1day)_M2	57.1	6.2222	0	8.3471
26.0085506	+	w- (1day)_M2	49.6	57.568	0	323.31
25.1198902	+	w- (1day)_M2	52.8	13.677	0	23.307
30.7126007	+	w- (1day)_M2	72.8	11.016	0	53.745
31.6300106	+	w- (1day)_M2	71.3	18.995	0	117.48
29.3378201	+	w- (1day)_M2	38.7	145.6	0	142.22
34.7300415	+	w- (1day)_M2	58.2	109.61	0	323.31
24.9654293	+	w- (1day)_M2	18.9	72.299	0	13.685
29.0131893	+	w- (1day)_M2	37.4	27.97	0	34.447
24.6060295	+	w- (1day)_M2	24.3	59.596	0	23.852
27.4882298	+	w- (1day)_M2	53.1	56.136	0	158.35
24.2481499	+	w- (1day)_M2	17.7	76.003	0	43.457
28.1902294	+	w- (1day)_M2	46.1	113.2	0	247.61
26.7275391	+	w- (1day)_M2	45.3	26.512	0	26.505
26.8565006	+	w- (1day)_M2	21.4	42.06	0	16.954
28.3265495	+	w- (1day)_M2	35.3	47.109	0	166.16
25.3055992	+	w- (1day)_M2	46.1	33.375	0	60.444
30.3647404	+	w- (1day)_M2	53.4	11.381	0	25.202
25.1059303	+	w- (1day)_M2	8.5	72.204	0	32.94
29.1587296	+	w- (1day)_M2	53.7	59.007	0	323.31
33.6598091	+	w- (1day)_M2	58.6	40.381	0	323.31
27.0462494	+	w- (1day)_M2	42.6	32.893	0	93.357
26.9559307	+	w- (1day)_M2	43.8	42.085	0	63.748
24.3702602	+	w- (1day)_M2	33.9	31.849	0	13.725
26.3432808	+	w- (1day)_M2	36.5	47.256	0	126.54
27.9308395	+	w- (1day)_M2	60.3	278.59	0	323.31
20	+	w- (1day)_M2	19.3	46.821	0	8.202
24.4854202	+	w- (1day)_M2	14.7	152.35	0	95.098
25.9600506	+	w- (1day)_M2	14.7	102.63	0	42.153
32.9913902	+	w- (1day)_M2	65.8	46.897	0	323.31

28.5938091 +	w- (1day)_M2	20	409.95	0	162.17
29.4714794 +	w- (1day)_M2	13.1	56.372	0	32.7
27.0091305 +	w- (1day)_M2	56.5	47.806	0	323.31
29.2340698 +	w- (1day)_M2	52.6	48.925	0	143.63
26.2450008 +	w- (1day)_M2	45.3	60.169	0	168.16
25.9772492 +	w- (1day)_M2	56.7	32.058	0	59.079
29.0340691 +	w- (1day)_M2	43.5	45.268	0	257.27
33.62603 +	w- (1day)_M2	72.4	78.629	0	323.31
28.6232109 +	w- (1day)_M2	37.5	32.83	0	145.04
27.4924393 +	w- (1day)_M2	28.7	70.686	0	44.806
36.0664406 +	w- (1day)_M2	69.4	85.397	0	323.31
28.07444 +	w- (1day)_M2	15.3	272.06	0	108.57
33.7838097 +	w- (1day)_M2	51.7	16.622	0	266.04
28.1798801 +	w- (1day)_M2	47.2	87.358	0	323.31
24.8362408 +	w- (1day)_M2	33.6	37.581	0	5.7399
27.0889092 +	w- (1day)_M2	16.2	48.786	0	153.09
29.0794392 +	w- (1day)_M2	65.6	45.037	0	323.31
26.6027203 +	w- (1day)_M2	34.1	61.747	0	257.08
26.7775593 +	w- (1day)_M2	36.5	23.959	0	15.512
30.6156197 +	w- (1day)_M2	64	23.777	0	105.52
29.7051506 +	w- (1day)_M2	48.4	16.385	0	110.61
27.0356998 +	w- (1day)_M2	7.1	154.6	0	93.671
27.78438 +	w- (1day)_M2	52.8	74.286	0	143.87
27.8059292 +	w- (1day)_M2	44	10.246	0	7.8744
30.1888409 +	w- (1day)_M2	50	17.291	0	26.503
25.2586098 +	w- (1day)_M2	23.9	31.528	0	48.425
26.1545792 +	w- (1day)_M2	29.7	29.435	0	62.745
28.5840206 +	w- (1day)_M2	28	529.9	0	284.44
25.4681206 +	w- (1day)_M2	16.1	55.819	0	4.1354
34.8801193 +	w- (1day)_M2	70	51.574	0	323.31
27.2998104 +	w- (1day)_M2	41	59.938	0	158.65
30.1712894 +	w- (1day)_M2	33	24.594	0	38.448
31.4625607 +	w- (1day)_M2	61.1	17.385	0	36.574
24.20434 +	w- (1day)_M2	25.4	30.705	0	50.744
27.6364403 +	w- (1day)_M2	40	50.127	0	69.249
27.8432598 +	w- (1day)_M2	38.5	13.625	0	58.236
28.1672001 +	w- (1day)_M2	72.8	23.616	0	219.07
32.9241295 +	w- (1day)_M2	77.3	95.913	0	323.31
25.8257999 +	w- (1day)_M2	77.6	19.763	0	113.63
24.6403103 +	w- (1day)_M2	25.7	69.369	0	94.73
33.4680595 +	w- (1day)_M2	69.3	17	0	323.31

28.6822109 +	w- (1day)_M2	38.9	17.022	0	6.2253
28.0915909 +	w- (1day)_M2	41.7	65.569	0	76.972
30.0862598 +	w- (1day)_M2	62.4	74.206	0	323.31
26.6003094 +	w- (1day)_M2	68.3	21.34	0	23.999
27.4623299 +	w- (1day)_M2	63.7	47.263	0	264.92
30.1023693 +	w- (1day)_M2	59	31.582	0	218.02
29.5967598 +	w- (1day)_M2	45	37.638	0	93.526
25.7095909 +	w- (1day)_M2	5.7	56.307	0	14.108
26.9359608 +	w- (1day)_M2	23.8	98.074	0	94.023
26.2402706 +	w- (1day)_M2	16.3	107.57	0	29.534
24.9478893 +	w- (1day)_M2	36	55.198	0	41.397
25.2569504 +	w- (1day)_M2	11.2	53.687	0	21.435
27.6223393 +	w- (1day)_M2	45.7	37.664	0	59.425
24.86306 +	w- (1day)_M2	5.2	56.277	0	3.3827
25.4450302 +	w- (1day)_M2	10.1	63.552	0	17.758
20 +	w- (1day)_M2	29.3	20.608	0	3.6236
20 +	w- (1day)_M2	25.4	13.768	0	9.3122
20 +	w- (1day)_M2	37.9	40.614	0	81.163
20 +	w- (1day)_M2	27.4	16.781	0.00065041	1.001
20 +	w- (1day)_M2	14.1	64.587	0	27.267
24.6124592 +	w- (1day)_M2	37.2	44.998	0	12.838
25.4020691 +	w- (1day)_M2	36.7	57.916	0	41.748
20 +	w- (1day)_M2	24.1	6.7259	0.00065147	1.0243
23.6132393 +	w- (1day)_M2	14	19.881	0	12.35
20 +	w- (1day)_M2	18.5	57.268	0	10.917
24.6130695 +	w- (1day)_M2	9	74.64	0	12.843
23.7969894 +	w- (1day)_M2	13.8	57.643	0	10.587
23.3341503 +	w- (1day)_M2	11.2	59.434	0	4.9199
24.2026997 +	w- (1day)_M2	33.2	44.127	0	15.628
20 +	w- (1day)_M2	25.3	21.431	0	4.7991
20 +	w- (1day)_M2	29.6	17.451	0	18.5
23.9661408 +	w- (1day)_M2	5.9	91.13	0	1.5395
20 +	w- (1day)_M2	18.7	28.075	0	9.992
27.1198101 +	w- (1day)_M2	44.8	28.734	0	26.461
24.5536194 +	w- (1day)_M2	13.7	58.85	0	29.71
24.0998097 +	w- (1day)_M2	11.4	85.414	0	20.196
23.10149 +	w- (1day)_M2	9.8	35.623	0	2.4093
25.4368191 +	w- (1day)_M2	18.8	23.281	0	11.081
24.5135193 +	w- (1day)_M2	42.2	39.085	0	46.134
23.6883793 +	w- (1day)_M2	15.1	60.272	0	8.0916
25.3668003 +	w- (1day)_M2	51.2	35.59	0	72.596

24.4263001	+	w- (1day)_M2	24.4	69.339	0	109.16
25.4965897	+	w- (1day)_M2	15.7	46.195	0	3.3296
24.3417702	+	w- (1day)_M2	20.7	33.383	0	5.6861
25.2570591	+	w- (1day)_M2	32.5	34.861	0	36.641
24.7754498	+	w- (1day)_M2	13.2	46.35	0.0043532	0.28572
32.0926094	+	w- (1day)_M2	35.7	49.924	0	217.42
20	+	w- (1day)_M2	10.3	81.212	0	10.413
27.8007603	+	w- (1day)_M2	46	42.471	0	189.72
25.0510101	+	w- (1day)_M2	44.9	17.369	0	117.84
25.0156708	+	w- (1day)_M2	47.3	14.22	0	100.68
23.6173992	+	w- (1day)_M2	30.4	24.978	0	6.5844
24.5691204	+	w- (1day)_M2	46.6	23.185	0	61.802
24.0037594	+	w- (1day)_M2	36.8	20.73	0	2.3825
24.5397301	+	w- (1day)_M2	17.8	50.137	0	11.842
20	+	w- (1day)_M2	32.4	14.974	0	16.861
23.2681408	+	w- (1day)_M2	7.4	55.751	0	38.119
24.7083607	+	w- (1day)_M2	33.7	54.619	0	44.052
25.7501907	+	w- (1day)_M2	41.6	69.008	0	61.59
25.1912594	+	w- (1day)_M2	27.7	11.582	0.00033212	1.3571
26.4437008	+	w- (1day)_M2	62.7	22.881	0	32.482
25.1900101	+	w- (1day)_M2	23.7	33.961	0	119.62
23.8425903	+	w- (1day)_M2	1.3	117.62	0	14.425
25.8139706	+	w- (1day)_M2	43	56.989	0	135.38
33.9950485	+	w- (1day)_M2	83	20.656	0	174.75
23.9157906	+	w- (1day)_M2	12.4	49.23	0	7.8602
27.1613503	+	w- (1day)_M2	54	17	0	36.725
24.6038799	+	w- (1day)_M2	32.3	79.284	0	75.818
28.5795307	+	w- (1day)_M2	44	47.754	0	171.16
24.6237202	+	w- (1day)_M2	17.8	69.008	0	18.761
23.7832699	+	w- (1day)_M2	7.3	180.03	0	2.7569
27.3390904	+	w- (1day)_M2	47.3	19.157	0	35.43
23.6750794	+	w- (1day)_M2	9.6	53.299	0	15.42
28.3620205	+	w- (1day)_M2	69	11.757	0	74.983
23.1895008	+	w- (1day)_M2	5.1	309.06	0	16.782
24.9631805	+	w- (1day)_M2	5.9	111.46	0	2.9896
24.3575001	+	w- (1day)_M2	34.8	34.457	0	11.356
26.1651897	+	w- (1day)_M2	65.3	25.615	0	87.891
31.6400108	+	w- (1day)_M2	69.8	18.918	0	323.31
31.5682793	+	w- (1day)_M2	77.3	17.747	0	51.809
27.031601	+	w- (1day)_M2	27	93.282	0	72.806
24.5929203	+	w- (1day)_M2	33	13.032	0	26.475

26.6383801	+	w- (1day)_M2	4.3	47.488	0	17.569
26.3915405	+	w- (1day)_M2	47.8	13.685	0	13.628
28.8332195	+	w- (1day)_M2	62.9	61.049	0	217.71
25.0426807	+	w- (1day)_M2	20	123.3	0	65.66
33.5349617	+	w- (1day)_M2	68.1	62.536	0	323.31
24.4142208	+	w- (1day)_M2	25.8	60.597	0	79.883
20	+	w- (1day)_M2	15	35.668	0	2.2241
25.7599697	+	w- (1day)_M2	35.1	99.034	0	35.87
28.8382797	+	w- (1day)_M2	40.5	94.755	0	194.63
24.2702103	+	w- (1day)_M2	0.6	418.17	0	1.8406
26.7083302	+	w- (1day)_M2	34.2	20.863	0	30.082
26.6066799	+	w- (1day)_M2	38.3	29.639	0	19.707
23.53718	+	w- (1day)_M2	16.6	64.391	0	4.3806
33.6741905	+	w- (1day)_M2	66.3	32.871	0	317.56
30.9333305	+	w- (1day)_M2	59.2	83.347	0	323.31
27.7420101	+	w- (1day)_M2	74.2	10.032	0	70.962
29.7518597	+	w- (1day)_M2	51.9	35.412	0	323.31
27.7148304	+	w- (1day)_M2	52.6	21.611	0	26.322
26.3400402	+	w- (1day)_M2	31.4	54.559	0	27.677
26.2500801	+	w- (1day)_M2	6.5	39.866	0	46.045
27.4522305	+	w- (1day)_M2	42.3	18.759	0	60.098
27.7127304	+	w- (1day)_M2	62.5	27.92	0	323.31
30.8392792	+	w- (1day)_M2	73.8	47.185	0	323.31
26.3637791	+	w- (1day)_M2	30.8	27.851	0	17.295
28.0861301	+	w- (1day)_M2	59.4	58.063	0	323.31
27.0444794	+	w- (1day)_M2	28.8	58.031	0	270.06
28.9341602	+	w- (1day)_M2	23.4	115.94	0	36.739
28.3583794	+	w- (1day)_M2	17.3	32.499	0	32.686
24.8931007	+	w- (1day)_M2	21.1	58.508	0	62.049
24.9463692	+	w- (1day)_M2	41.3	50.778	0	283.1
29.1103096	+	w- (1day)_M2	65.6	16.265	0	178.23
30.9246502	+	w- (1day)_M2	70.3	19.845	0	176.1
30.9955006	+	w- (1day)_M2	73.7	19.896	0	221.7
27.2114105	+	w- (1day)_M2	21.5	48.697	0	18.856
30.4376793			46.1	62.129	0	303.99
20			26	26.347	0	10.557
24.4683704			21.6	42.017	0	46.228
20			9.6	77.918	0	7.6745
24.5338001			13.1	42.806	0	27.802
24.7877102			24	56.83	0	137.57
27.6319408			37	87.507	0	38.286

30.1832905	49.9	184.17	0	323.31
27.1691093	51.6	34.645	0	72.243
30.2893391	52.1	90.238	0	323.31
34.8549004	95.7	30.55	0	323.31
30.0159798	40.3	138.36	0	323.31
29.8747902	77.8	64.072	0	323.31
22.8837891	1.5	164.12	0	2.5011
28.2477608	44	25.527	0	55.965
27.6840496	55.1	21.09	0	75.017
25.2709599	2.9	113.62	0	13.33
26.8118897	63.9	38.089	0	189.44
23.4435406	49.8	32.683	0	138.57
25.7858391	22	31.161	0	7.4187
31.6821098	47	9.4336	0	86.101
24.9918709	9.4	155.68	0	6.7443
26.6015892	20.1	47.403	0	73.295
30.4688797	47.3	12.09	0	113.12
28.8666706	47.9	13.882	0	216.86
29.5348797	88.4	11.513	0	155.84
31.7357407	70	98.867	0	323.31
27.72468	24.3	121.7	0	159.95
27.3007698	39.9	45.756	0	303.08
27.14394	42.5	36.192	0	234.93
24.5166493	47.3	10.28	0	62.971
26.4439106	35.8	78.143	0	133.31
27.8868103	60.3	91.134	0	323.31
26.3903904	7.5	274.53	0	49.415
25.21208	46.5	41.131	0	57.165
26.6414108	51.9	43.42	0	129.04
26.4138908	39.4	62.264	0	150.73
28.3073502	57.4	21.611	0	88.016
26.8096809	32.7	60.879	0	66.774
26.8379803	69.8	99.626	0	265.59
32.9471703	53.7	33.764	0	323.31
25.1593895	25.4	22.862	0	4.7419
29.2819996	53.2	44.354	0	309.21
26.3375893	36.4	33.122	0	28.78
25.0700092	54.8	41.187	0	323.31
27.4752197	13.5	105.96	0	35.196
27.2149391	72.2	23.96	0	67.478
27.1202107	16.9	20.313	0	21.642

25.2937203	52.9	14.784	0	35.361
27.4145794	49.6	38.645	0	112.7
29.7798805	69.7	25.434	0	190.96
25.4040909	37.6	27.691	0	33.011
25.8831806	42.9	21.403	0	28.951
30.4374809	81.5	34.181	0	323.31
25.8667698	24	12.501	0	2.9409
24.2581806	23.2	36.322	0	23.438
34.1810494	73.9	80.421	0	323.31
33.2753105	70.3	132.67	0	323.31
24.5277901	47.8	10.116	0	30.814
25.5551395	62.6	25.665	0	151.82
28.4909802	85.9	63.323	0	323.31
25.2278404	40.2	19.979	0	17.934
31.0410709	58.2	65.443	0	323.31
25.1897907	61.8	24.947	0	39.617
25.0355701	37.5	40.96	0	95.942
29.1378307	55.1	9.9015	0	14.595
23.8292904	25.6	14.391	0	19.654
26.4667206	48.1	30.742	0	48.044
25.7112503	52.9	10.19	0	12.79
27.2210407	34.6	31.872	0	13.95
26.8684406	65.4	60.765	0	323.31
25.5731106	21.9	33.037	0	29.665
31.1772995	78.1	11.424	0	19.549
25.7748699	7.2	137.04	0	32.365
26.2016697	39.9	32.536	0	186.95
34.8392105	68.4	38.584	0	323.31
24.2203693	14.2	39.038	0	4.5919
24.06176	23.8	162.7	0	81.748
24.5321999	20.5	39.499	0	23.315
26.2205391	34	58.751	0	95.378
26.9171791	62.6	34.542	0	56.632
23.6238804	3.2	118.25	0.00033124	1.3141
28.4237404	44.5	124.2	0	302.59
32.2529297	38.3	13.579	0	100.96
24.3574295	16.7	44.819	0	74.274
25.6165009	30.8	54.457	0	45.824
25.6375198	52.2	119.31	0	210.31
32.1092415	59.5	51.83	0	323.31
24.2347603	32.2	23.675	0	182.05

27.3489208	51.7	64.66	0	106.45
29.4718094	20.8	525.04	0	277.73
26.21801	26.3	52.574	0	20.716
25.8284206	44.4	41.626	0	38.703
27.0835495	35.9	49.067	0	29.1
26.8437405	35.7	6.5906	0	2.1489
28.51721	56.9	103.44	0	323.31
33.068779	71.7	50.459	0	323.31
24.8655701	50.3	37.672	0	59.336
27.7027302	42.7	41.611	0	40.739
28.7184296	28.5	173.17	0	146.19
25.9453392	29.1	34.206	0	15.142
29.2598209	77.1	7.4055	0	30.381
24.3519802	22.6	41.637	0	307.27
30.9663696	76.3	57.149	0	323.31
25.6620197	74.9	39.724	0	222.37
25.9310494	71.2	25.443	0	142.88
28.8459492	61.1	45.707	0	192.4
25.5009098	50.2	31.728	0	108.74
28.5807495	37.7	26.154	0	78.074
27.6391392	49.8	47.167	0	238.64
24.0437698	21.8	32.814	0	5.7871
22.9484596	79.6	47.695	0	323.31
30.0479107	55.1	42.472	0	303.83
25.7000694	33.5	26.953	0	14.757
28.6702995	38.1	44.397	0	137.84
31.1558704	50.7	89.7	0	323.31
27.61203	63.2	37.992	0	323.31
28.6248798	64	24.245	0	100.07
28.7938309	70	39.111	0	235.67
28.9897499	75.9	52.606	0	323.31
26.8522205	4	174.3	0	90.007
26.2325192	35.3	48.528	0	50.46
20	18.9	18.269	0.0018957	0.55136
26.6817703	37.4	21.493	0	6.0882
27.7022591	48.3	20.989	0	38.888
25.2428494	37.5	58.836	0	111.99
26.3061009	36.8	31.076	0	27.077
28.2526398	41.5	9.8893	0	31.058
33.7514496	55.3	54.251	0	289.97
28.1022892	50.7	32.952	0	102.86

24.1385307	7	109.72	0	6.9513
28.3183403	31.8	10.062	0	8.8519
28.9533291	47.3	76.346	0	282.9
27.1440392	76.5	46.998	0	322.31
25.8088493	48.9	56.455	0	130.92
27.7869396	42.4	49.149	0	101.19
25.0755291	54.3	22.18	0	25.753
25.3730202	12.1	70.284	0	8.5123
26.9643307	68.8	31.253	0	248.09
28.9746208	47.8	40.552	0	72.197
28.1595192	51.1	102.28	0	323.31
24.4088593	9.7	296.38	0	23.075
26.3374806	37.4	28.485	0	82.808
28.6557808	44	14.104	0	81.103
27.5101299	42.3	33.617	0	65.695
30.9310093	53.1	50.641	0	142.88
27.4510498	47.2	12.829	0	25.479
26.7290993	40.6	58.263	0	56.784
27.0333901	56.9	68.489	0	191.12
23.81147	87.4	18.823	0	129.69
34.1546707	58.4	30.081	0	323.31
27.7246208	42.3	89.413	0	221.95
27.2206593	30.6	23.84	0	81.256
25.5738106	74.8	17.236	0	33.177
24.6544704	21.4	31.168	0	6.5754
25.5424194	50.6	27.675	0	66.383
31.6978092	57.6	24.578	0	175.08
27.1378002	38.5	31.295	0	21.771
28.3766708	35	33.472	0	99.591
34.9957695	68.1	1000.1	0	323.31
26.9018498	28.7	43.904	0	85.613
28.35355	41.1	12.261	0	46.977
25.5325203	37.9	39.54	0	45.484
27.8271103	39.9	78.547	0	218.1
32.4918518	63.7	46.821	0	323.31
28.1321697	23.6	104.91	0	93.097
33.8326187	65.4	48.983	0	323.31
26.8786507	38.1	110.4	0	300.21
27.4174004	51.4	27.973	0	112.51
26.6147003	7.7	27.93	0	27.093
27.7912293	47.6	28.804	0	14.907

32.7434197	60.4	11.936	0	144.32
25.7411594	20.8	23.036	0	11.407
26.6766701	59.9	44.911	0	217.22
28.3902206	69.3	19.614	0	256.89
29.4993305	69.2	25.242	0	323.31
26.1886292	47.6	38.407	0	103.55
26.7943897	60.9	19.954	0	217.63
26.9396591	41.3	15.883	0	125.1
25.9347	33	68.505	0	23.297
27.0748997	40	16.188	0	28.147
31.2378006	67	11.546	0	48.218
28.3427391	52.8	26.771	0	191.65
28.4962101	49.5	34.093	0	47.151
25.0105991	10.9	67.289	0	35.248
26.7783108	20.9	140.51	0	86.07
24.1459999	40.3	56.003	0	117.7
26.1320305	16.1	61.539	0	135.35
24.3279305	32.7	29.157	0	31.576
24.9896698	15.2	101.5	0	4.7646
30.5429592	62.9	84.091	0	323.31
27.5073299	31.4	40.389	0	95.627
25.9384308	19.6	53.701	0	24.641
24.2704201	13.8	57.19	0	8.2647
25.3647308	37.7	44.696	0	66.922
25.5692692	20.8	81.673	0	59.301
25.7494507	21.5	134.35	0	323.31
32.7073402	64.9	13.568	0	204.82
28.7554092	48.7	55.735	0	254.35
25.49613	51.1	9.9024	0	7.9363
26.7747994	4.4	299.52	0	79.991
27.1829109	34.5	51.754	0	172.08
30.4088192	51.4	34.202	0	164.11
26.2156601	64.3	9.6712	0	69.887
27.22048	19.5	21.206	0	58.07
25.3121204	10.9	19.564	0	1.532
25.7593098	22.3	39.535	0	8.4712
24.8933296	15.7	65.091	0	10.954
30.8106194	51.6	14.357	0	24.52
27.6005192	88.9	13.723	0	229.76
26.1140404	22.5	20.473	0	6.7073
27.1033001	49.9	44.341	0	41.147

31.5861607	52.6	20.203	0	188.14
28.2833901	49.1	53.525	0	250.6
29.7744198	60.7	28.899	0	134.7
32.1402588	35.5	6.5539	0	9.7801
24.4595108	30	44.166	0	31.283
24.2692795	30.6	62.906	0	215.23
26.4853592	9.1	101.32	0	11.096
30.8712196	51.3	28.975	0	323.31
27.3612709	54.5	15.206	0	224.52
24.5982704	8.3	149.08	0	11.052
26.8670292	51.3	75.104	0	254.1
32.5553398	73.8	12.483	0	101.41
27.2502499	61.8	17.615	0	84.51
30.6065598	62.1	19.658	0	74.967
28.5072193	43	17.178	0	44.605
31.7376709	84.9	35.369	0	323.31
29.4141502	60.8	112.89	0	323.31
28.7457409	47.7	18.014	0	85.786
27.8972893	67.5	19.242	0	169.19
29.0463791	71.7	22.762	0	231.05
26.6221294	32.4	24.072	0	11.451
26.3745594	16.9	70.663	0	12.926
27.1513195	22.1	30.063	0	69.476
24.9218006	34.9	34.01	0	32.321
27.1553803	49.9	123.56	0	321.05
27.5208798	44.6	28.175	0	47.112
26.6924591	30.1	27.157	0	31.381
23.5949097	23.9	136.14	0	85.359
28.2101593	58.2	23.56	0	131.04
26.7865601	57.6	32.488	0	323.31
29.2803001	41	30.731	0	68.663
24.6208706	16.5	63.732	0	10.074
26.5866299	25.4	13.128	0	4.4162
24.8300705	80.6	23.631	0	193.98
28.3498898	43.9	31.712	0	98.149
24.0191994	16.2	108.49	0	24.474
27.4206104	30	75.598	0	181.45
29.5937901	50	17.611	0	32.674
26.7373791	11.6	34.823	0	135.86
26.7319508	51.4	79.345	0	176.68
27.84548	17.9	28.141	0	10.544

24.8959694	33.5	22.535	0	7.88
24.66465	28.2	52.194	0	31.254
28.2489395	53.9	62.071	0	315.89
25.9326096	21.1	88.035	0	30.884
27.1961002	37.6	57.76	0	107.67
26.5983295	36.7	63.14	0	79.661
25.9360294	37.6	28.691	0	52.284
26.8403797	31.6	8.2366	0	8.3127
26.0606499	16.8	29.105	0	33.427
28.2089005	37.2	183.94	0	323.31
26.2635307	58.3	30.342	0	98.618
26.7997093	45.7	22.216	0	45.079
28.3155708	41.2	37.424	0	55.438
25.8986492	75.3	33.428	0	93.375
26.9984093	41	57.747	0	171.46
28.5339699	64	20.927	0	122.78
26.6965694	40.3	30.295	0	39.494
24.8976803	25.3	51.945	0	31.596
25.6162796	11.6	46.128	0	3.3094
28.2429504	51	22.555	0	83.463
26.6204491	38.6	60.692	0	58.452
24.3827801	46.5	29.213	0	14.426
25.7782097	16.5	26.609	0	2.6047
29.3731194	32.1	85.75	0	40.539
25.4214993	24.2	64.797	0	29.275
26.2725201	7.7	28.282	0	4.5377
30.5582809	10.2	32.98	0	32.447
27.1979809	17.3	53.57	0	23.106
27.1166401	11.7	31.231	0	169.27
26.9978695	16.9	126.44	0	53.527
27.5550098	44.5	24.05	0	90.556
26.7483006	34.9	48.129	0	122.55
25.1535206	16.4	43.95	0	36.374
25.3752403	71	19.973	0	53.327
25.9236603	35.3	24.805	0	13.978
28.3035603	27.1	52.184	0	80.77
26.5198498	39.6	28.099	0	15.145
26.3135796	41.4	98.775	0	323.31
24.2632008	14.1	34.421	0	11.167
33.7844887	71.4	72.342	0	323.31
26.9582596	45.9	44.654	0	53.119

25.4903908	11.3	61.841	0	4.1064
24.2464104	12.3	69.447	0	5.108
20	36.4	17.966	0	4.4975
25.67169	27.2	19.448	0	71.349
34.6128082	67.6	122.89	0	323.31
27.2476196	24.1	50.355	0	323.31
30.42342	52.5	17.878	0	197.61
26.8522205	32.4	54.231	0	126.76
26.4508305	16.8	18.105	0	3.7368
26.7512398	71.5	24.528	0	133.41
28.5777302	17.4	198.33	0	214.45
28.31847	46.7	26.263	0	240.24
25.6810207	28.3	10.311	0	17.465
25.9272099	36.7	47.883	0	32.176
27.2548504	25	106.33	0	47.049
25.4577007	23.2	50.742	0	5.7199
27.3404503	2.9	61.081	0	104.27
23.9461899	41.2	20.348	0	38.104
27.9883194	10.5	172.89	0	13.417
27.0341206	28.3	55.587	0	22.537
26.5481606	51	10.762	0	90.656
20	18.3	63.53	0	3.079
27.1236591	40.2	42.618	0	134.96
25.1559601	48.5	57.17	0	68.413
28.0796909	17.3	53.283	0	13.517
25.8116894	43.9	20.235	0	30.521
24.1872196	18	15.246	0	9.7296
28.2878895	67	37.324	0	61.279
29.0922699	50.2	23.866	0	80.552
26.8737297	53.6	16.998	0	89.028
25.2013893	37.4	25.783	0	115.83
26.4236603	20.2	10.063	0	16.614
32.5342407	68.4	52.92	0	323.31
24.7589302	70.8	19.366	0	160.79
25.7420902	49.7	52.205	0	93.318
27.2254505	83.3	5.087	0	2.4074
30.0443993	57.3	23.926	0	162.14
24.9450302	57.2	28.725	0	83.058
28.1728401	44.4	85.08	0	146.98
27.8302002	50.5	74.788	0	167.21
26.0111008	8.1	113.98	0	7.4486

27.1396599	51	23.179	0	254.52
24.5730591	46.6	29.203	0	60.917
30.4030399	49.5	11.948	0	228.37
20	33.8	16.987	0	6.6608
25.8544102	34.9	103.12	0	80.472
28.4179592	20.8	29.649	0	11.827
24.6411305	34.7	57.746	0	31.962
26.22052	15.9	43.214	0	5.5813
31.4847202	63.8	52.589	0	323.31
28.6568298	78.4	17.153	0	323.31
28.64151	58.2	75.106	0	220.66
27.9986801	39.7	27.611	0	41.587
26.5929203	54.5	52.49	0	94.697
23.5027599	55.7	72.051	0	196.21
26.7118797	29.7	27.627	0	62.826
30.6656895	64.9	30.34	0	150.59
26.5993195	42	13.927	0	12.446
28.7158108	65.5	49.051	0	313.41
26.2209797	28.4	90.863	0	60.646
25.2558403	39.6	22.064	0	13.435
20	15.4	83.433	0	28.635
24.9402008	55.5	26.567	0	22.078
26.0517693	11.9	102.59	0	7.296
25.7044792	26.6	40.211	0	32.727
27.9017906	67.3	24.756	0	69.644
27.6425095	45.8	86.31	0	323.31
23.0958691	49.2	71.212	0	187.76
29.2787705	19.3	989.54	0	289
26.6913891	8.7	193.77	0	104.5
33.9328919	63.6	40.553	0	116.24
28.8620396	60	55.533	0	300.6
25.08675	66.7	9.916	0	30.155
25.2080708	26.5	19.221	0	18.191
26.0209408	43.3	32.744	0	30.907
29.1620903	65	88.858	0	323.31
26.7828198	33.5	42.488	0	93.761
26.83605	11.7	274.93	0	20.162
28.1798306	43	90.081	0	137.36
25.2482891	5.3	314.99	0	20.887
26.2669601	31.1	15.446	0	6.0963
27.2846298	4.8	494.31	0	26.431

27.5319309	59.4	14.892	0	323.31
27.5946999	26.7	23.691	0	10.293
25.2333393	26.8	97.205	0	37.366
25.4612293	12.9	51.352	0.00033036	1.2855
28.8045197	74	8.5789	0	27.89
26.7920303	74.2	36.159	0	209.99
31.33181	66.9	16.823	0	92.132
27.0065708	14.1	22.232	0	4.5761
28.1703091	57	32.634	0	99.608
29.2795906	85	15.698	0	323.31
24.3919201	21.3	57.384	0	8.7274
28.0961704	1.3	224.49	0	158.47
28.4022293	56	28.706	0	178.23
26.6034298	29.4	37.902	0	15.303
27.0027103	44.9	44.769	0	192.88
24.1098805	18.7	38.543	0	41.563
26.2186203	68.7	25.85	0	283.96
29.4398994	63.9	22.199	0	75.169
29.29883	58.8	70.808	0	263.14
20	6.2	32.519	0.0043519	0.26512
25.7813206	17	39.43	0	6.377
28.4245396	44.8	18.102	0	170.11
26.0904694	45.1	28.35	0	23.742
26.6933899	27.1	74.942	0	306.61
28.6957398	39.4	58.88	0	231.48
27.1991005	42.7	13.93	0	90.316
33.3405609	72.9	39.351	0	323.31
23.5771503	35.2	14.428	0	10.712
20	16.9	29.182	0	21.572
26.1498299	27.7	60.278	0	113.28
26.9930191	32.8	36.184	0	85.588
30.6920395	34.1	30.353	0	85.635
23.14188	32.3	51.699	0	20.42
28.2627106	56.2	75.128	0	119.03
25.1463509	41.4	72.85	0	45.193
29.5477104	45.4	18.821	0	23.893
27.031601	37.7	61.234	0	56.647
28.6406498	42	119.32	0	154.51
27.2985001	73.4	17.738	0	78.817
35.2316704	84.2	23.714	0	323.31
30.8640804	61.6	75.856	0	323.31

28.2509708	73.8	32.646	0	290
26.9412308	17.9	121.52	0	120.2
24.8319492	31.8	41.998	0	39.856
26.5142307	15.9	111.55	0	59.408
28.0112705	60.4	12.234	0	253.18
27.3052197	36	17.877	0	14.127
29.3359394	48.2	86.647	0	323.31
25.6594906	28.8	26.666	0	10.281
31.6609306	68.6	26.781	0	91.735
25.42243	25.8	82.509	0	44.695
25.4839802	6.2	90.628	0	1.9783
23.9413605	40.5	36.732	0	41.403
26.9638901	28	170.17	0	76.726
26.0571003	47.2	23.162	0	93.943
24.6047897	54.2	13.258	0	1.8508
28.0128098	27.4	13.201	0	9.6928
26.8852997	61.5	75.945	0	323.31
24.44664	34.6	56.354	0	114.73
26.2021198	47.9	18.56	0	81.002
28.4162293	28.4	204.45	0	97.592
27.4847794	51.2	17.601	0	16.885
31.4323597	82.3	13.788	0	286
27.0410309	59.5	13.845	0	81.366
26.44487	43.7	10.195	0	74.321
35.9764519	85.3	32.909	0	323.31
25.7654209	17.5	125.32	0	33.018
24.9671001	30.2	39.789	0	30.098
24.3520508	8.3	101.05	0	3.9176
25.2224293	37	16.717	0	35.485
25.8117409	25	67.382	0	187
31.6688995	25.9	9.0334	0	10.293
24.9573097	33	39.643	0	16.648
26.2127495	17.9	103.59	0	81.295
24.2283192	21.2	130.05	0	28.512
25.9723301	23.3	44.144	0	21.758
20	2.5	149.3	0	2.6714
26.0563107	31.2	25.906	0	120.21
31.4528294	71	24.659	0	323.31
20	17.5	17.888	0	4.6113
24.7870102	71.8	12.45	0	138.1
25.1845398	19.3	47.723	0	60.182

28.7762108	47.9	16.029	0	27.713
26.9503803	30.1	76.602	0	64.312
28.1072903	24	45.336	0	61.258
20	12.9	145.13	0	21.826
28.2134495	63.5	21.978	0	155.43
22.5750809	12.4	40.368	0	5.4611
30.2793007	61.6	68.301	0	323.31
20	13.7	97.859	0	114.63
20	15.9	102.44	0	16.458
24.6908302	15.2	67.767	0	9.2113
20	20.4	16.937	0	5.7206
27.9623509	68.3	21.515	0	142.45
25.2848606	29.5	134.87	0	74.568
27.4597492	20.5	160.56	0	122.56
22.6939793	36.6	16.985	0	14.003
23.5178509	32.6	45.113	0	47.02
23.3771591	10.3	149.25	0	14.43
24.1090107	9.1	50.886	0	31.002
25.5524197	20.8	76.514	0	21.585
26.432581	64.9	14.371	0	52.124
24.0774097	5.9	142.49	0	4.8397
25.21978	69.5	79.108	0	225.87
20	54.6	13.642	0	13.753
25.5990601	41.4	62.249	0	109.36
20	21.2	69.971	0	17.686
29.1164398	29.2	182.34	0	323.31
28.2014904	64.9	58.067	0	257.52
27.6189098	25	93.962	0	115.2
25.0865097	16.7	38.111	0	1.8883
26.7493191	17.8	27.028	0	113.43
28.0593605	58.1	130.76	0	323.31
26.4905491	65.1	25.842	0	51.882
25.9350109	46.6	56.823	0	73.739
25.2503891	27.2	41.863	0	27.151
23.8730507	11.4	86.838	0	29.875
24.8660393	32.8	18.683	0	265.09
24.1852608	20.6	27.12	0	4.9509
20	8.4	103.51	0	10.087
25.0922909	20.3	27.279	0	2.2294
29.1277294	26.6	10.908	0	11.05
23.4365692	4	49.133	0.0031417	0.45003

25.7689304	41.2	38.457	0	109.18
29.2096195	47.4	18.784	0	262.75
24.8590393	22.4	10.12	0	5.4628
29.0624199	70.5	14.41	0	117.51
27.8129902	55	55.033	0	229.4
27.08881	57.5	47.064	0	55.601
24.8066101	25	16.869	0	4.003
26.2847004	49.7	43.479	0	107.29
25.7320499	28.2	30.804	0	21.024
24.3285503	8.3	40.943	0	11.17
26.1776505	42	25.621	0	27.591
26.5720005	54.7	22.481	0	46.903
32.2107697	71.1	71.131	0	323.31
27.3540497	38.4	69.1	0	55.081
24.51087	47.2	15.605	0	164.77
26.7878094	47.3	22.613	0	77.873
25.0743904	14.7	81.96	0	24.756
27.1073895	48.3	45.38	0	323.31
24.3172092	18.5	69.911	0	17.184
24.8531494	22.9	15.532	0	23.002
25.4822502	26.3	8.9202	0	55.939
25.6060295	14.4	159.05	0	37.389
24.4257908	26.2	9.0137	0	5.5141
23.4516106	15	47.893	0	6.7796
25.4981403	22.6	53.716	0	8.1439
24.6215992	18.8	64.346	0	59.654
28.7483902	39.9	40.531	0	105.01
20	1.2	317.99	0.0046154	0.12718
25.0436001	11.8	109.11	0	7.8825
25.3007603	13.5	49.855	0	7.3629
25.0361195	31.9	31.401	0	5.3545
24.8393707	35.7	32.896	0	154.02
26.6843205	34.1	20.98	0	126.27
29.1323891	41.8	6.2943	0	12.167
28.6962395	64.7	44.529	0	247.72
24.9727192	41.7	20.507	0	40.044
25.7530499	26	8.5629	0	13.075
33.125351	44.5	34.389	0	263.25
27.2718601	9.6	35.91	0	3.7817
31.8254395	75.1	39.047	0	323.31
24.52211	19.3	30.526	0	11.836

24.8272591	36.6	48.991	0	40.426
23.8225994	13.2	61.839	0	26.956
25.3726902	38.1	102.71	0	173.37
29.1339607	31.4	21.664	0	33.899
27.3137207	44.9	20.865	0	34.692
24.5606899	26.2	22.665	0	21.277
24.4430409	8.7	59.859	0	2.1125
27.3456192	77	44.086	0	323.31
24.5892696	32.6	46.131	0	14.123
30.9594097	81.7	26.542	0	171.18
26.3625908	25.4	49.445	0	17.561
24.9547291	49.4	18.376	0	36.6
27.7301407	32.5	21.779	0	20.454
26.1030808	44.2	25.898	0	58.821
20	44.7	20.658	0	18.67
28.1267204	30.6	26.78	0	97.389
25.7762508	24.5	54.945	0	55.475
20	28.5	87.481	0	55.119
24.62817	28.4	100.93	0	169.08
23.9204292	28.4	21.88	0	9.6522
24.4935703	23.8	59.228	0	49.567
25.6767502	55.9	47.311	0	131.41
25.2996006	36.4	47.967	0	26.961
27.6182804	85	16.613	0	146.89
25.2902107	64.4	19.454	0	86.028
28.6986008	74.2	17.591	0	289.65
25.6896305	26.9	36.253	0	13.729
20	24.7	32.015	0	21.487
24.4696693	28.7	45.043	0	7.9763
25.9917698	62.2	44.91	0	109.92
25.8678303	32.1	65.251	0	160.21
25.2783508	56.7	26.831	0	94.54
24.9092598	25.4	41.726	0	37.791
29.1159706	72.6	30.228	0	323.31
25.6133308	8.2	70.253	0	5.1811
27.2748909	38.3	16.077	0	63.61
26.5592594	36.6	47.366	0	166.6
25.2846108	38.2	92.091	0	46.642
23.1193199	60.3	35.796	0	309.75
29.0872192	4.3	89.816	0.0018945	0.53741
25.0733299	5.3	108.12	0	4.617

29.1931706	42.2	31.556	0	247.77
25.1859703	43.7	35.418	0	15.87
27.0709209	35.2	56.861	0	78.922
30.0857506	77.6	27.471	0	124.34
29.6463108	18.2	16.002	0	1.6364
24.6976891	14.3	88.209	0	30.527
26.9549408	11.1	590.7	0	101.3
28.5937691	7.3	23.16	0	5.589
26.8907604	48.6	36.733	0	80.725
27.0517502	57.4	15.73	0	119.65
30.8227406	87.6	20.629	0	323.31
24.5536194	48.7	37.481	0	28.211
24.5191097	32.4	27.099	0	65.168
27.0148907	59.5	42.988	0	82.403
28.9536591	74	43.861	0	323.31
25.6109905	34.1	29.904	0	26.001
24.6602497	37.4	26.24	0	15.285
27.7650299	58.9	59.058	0	323.31
20	13.6	39.458	0	5.5258
25.7876797	20.2	51.201	0	18.648
26.6418209	44.4	10.124	0	17.317
24.4472694	40	46.626	0	18.806
26.2481499	62.4	13.119	0	22.952
26.4963398	50.2	66.549	0	123.95
25.5505104	14.2	86.624	0	18.934
27.9745407	62.8	25.177	0	133.64
25.0763893	24.7	56.427	0	4.497
27.0440598	17.9	24.245	0	67.448
26.4926701	26.1	92.022	0	88.049
26.8779507	39	37.136	0	28.79
27.2922001	64.7	59.394	0	201.13
26.5323696	33.1	39.343	0	9.5054
24.7220306	33.1	17.337	0	27.121
24.39715	14.9	57.189	0	7.1329
26.1884804	24.2	65.998	0	24.495
25.7458592	53.9	45.78	0	139.26
24.6598091	43.5	31.87	0	21.973
26.5016804	7	51.383	0	24.16
27.0879002	42	47.135	0	43.677
27.1705494	40.6	17.828	0	12.805
24.3121605	20.9	52.96	0	16.883

26.5404491	58.1	42.773	0	100.92
20	9.5	67.095	0	7.1112
31.7973805	72.1	63.666	0	323.31
24.2114105	11.4	96.862	0	12.102
25.9701805	45.2	26.862	0	8.3393
26.3225498	24	140.44	0	155.63
24.6912003	14.6	39.627	0	8.1534
28.5555191	32	22.138	0	150.1
29.3096905	66.2	81.556	0	323.31
28.3041706	69.4	21.811	0	143.6
20	20.4	139.61	0	48.459
24.3246403	21	67.913	0	8.3983
27.7516804	62.6	65.435	0	278.41
23.8878994	6.5	37.283	0	29.261
24.6940804	45.9	12.479	0	97.506
25.3389893	40.6	21.067	0	166.18
29.1609592	48.8	9.4118	0	25.157
28.1359901	79.1	15.168	0	212.93
29.2593002	41.2	15.388	0	33.832
27.9252396	31.2	76.743	0	94.031
26.0698509	20.7	22.323	0	87.433
25.9404907	43.8	36.401	0	68.65
26.6379604	45.2	38.229	0	36.867
28.2904396	41.5	18.476	0	12.426
29.4605293	40.6	27.892	0	323.31
25.9332104	28.1	24.333	0	42.735
28.1939392	46.6	16.152	0	79.716
22.5287895	5.5	58.952	0	1.8736
25.1884708	44.4	17.133	0	60.64
25.8629704	53.9	27.722	0	61.659
26.2389107	33.5	79.09	0	106.43
25.0751705	32	52.202	0	92.306
27.4340401	60.6	55.697	0	113.48
28.6672592	63.4	21.738	0	86.344
25.9686909	70.6	21.924	0	87.393
25.8610001	50.1	38.868	0	90.354
31.4036503	61.5	26.379	0	176.23
25.4936295	53.2	30.625	0	36.557
28.7054005	45.3	32.033	0	109.34
26.4582195	40	38.163	0	25.891
28.90518	81.7	23.853	0	321.41

28.2932091	17.8	24.489	0	118.08
28.8668499	37.9	38.85	0	101.46
27.8964901	50	10.578	0	24.352
26.4244995	47.1	51.162	0	187.29
27.20294	48.3	141.1	0	148.37
25.1593094	19	70.162	0	10.976
26.0745106	44.9	10.358	0	204.8
26.4765797	16.6	34.185	0	7.6569
27.7415009	50.4	14.519	0	60.473
24.8077393	52.8	43.799	0	148.45
25.8857193	61.4	21.593	0	42.24
27.3438397	1	111.7	0	2.4989
25.2672405	13.9	61.651	0	8.3504
23.7790604	42.5	24.881	0	14.669
33.6145592	60.1	27.357	0	183.91
24.7845707	9.3	52.231	0	20.691
28.0790806	19.9	29.033	0	9.3902
23.6862392	19.6	84.257	0	32.112
25.0376205	12.8	209.79	0	15.856
26.6264496	22.6	77.105	0	39.082
25.8401394	41.4	42.767	0	155.3
27.1510296	33.4	64.285	0	64.028
30.8006191	42.5	132.94	0	323.31
27.8205509	49.8	51.709	0	169.36
24.9104996	39.2	22.314	0	17.564
24.6361599	38.2	57.704	0	51.066
28.0126	72.1	17.014	0	146.66
25.3460808	14.5	99.407	0	94.128
30.0959702	18.7	1488.3	0	138.36
26.8064899	31.1	174.35	0	143.26
29.4633408	50.8	29.552	0	275.38
25.1256599	35.7	41.638	0	39.485
25.9927807	37.9	10.633	0	10.911
24.3122292	59.3	39.108	0	86.583
23.1348591	7.7	56.02	0	10.496
26.5150394	30.3	15.46	0	62.15
25.8032608	16.7	24.794	0	8.2689
25.1777897	47.4	39.911	0	12.833
27.5853405	14.2	18.069	0.00032971	1.2318
25.2868004	20.5	20.921	0	43.072
27.0032501	30.5	33.03	0	64.175

27.5691395	43.2	11.098	0	169.91
30.0404892	53.5	63.128	0	176.01
26.2453594	20.2	74.71	0	16.944
23.9228897	11.6	110.65	0	10.974
25.2848606	15.8	36.199	0	35.697
24.1609192	22.1	18.836	0	12.702
20	9.3	69.569	0	9.079
26.9354	32.5	12.458	0	31.681
24.56773	26.6	27.493	0	10.977
27.4607601	42.5	105.65	0	319.82
24.5542603	24.3	57.362	0	28.248
24.7630405	33.1	29.946	0	35.695
25.4487801	18	105.08	0	96.619
28.2228794	28.4	30.61	0	86.879
28.0345898	74.4	59.386	0	292.09
25.5897198	13.3	23.501	0	14.186
24.1168003	39.3	26.743	0	25.775
24.6532192	39.1	48.934	0	30.977
25.5707092	38.8	16.407	0	16.992
26.4319897	47	18.565	0	77.795
28.5748806	62.6	17.696	0	52.95
26.2640095	42.9	5.5054	0	39.648
24.3041706	19.1	129.27	0	172.14
27.9636097	46.2	7.4766	0	84.61
24.4442406	9.5	70.587	0	3.3104
25.6078892	26.5	54.153	0	14.027
24.6668701	14.6	60.871	0	6.7003
26.5676403	44.8	43.348	0	62.385
25.5402298	73.7	21.436	0	58.892
29.8363495	68.6	22.17	0	323.31
26.7945194	43.5	105.73	0	88.316
23.2312393	54.3	39.819	0	317.9
24.6605206	37.8	60.414	0	70.596
23.2885609	21.3	293.91	0	70.085
24.7181091	60.2	48.634	0	58.688
24.5302296	12.2	44.182	0	5.2747
25.1590004	40.8	16.678	0	15.347
23.5093002	32.9	61.837	0	45.121
29.2087898	44	189.41	0	268.41
25.7816391	23.5	15.328	0	15.368
25.5480995	69.9	35.537	0	323.31

27.7698898	68.2	33.883	0	281.65
25.0002003	46.3	54.348	0	97.296
27.1687298	44.5	24.704	0	39.549
34.4745407	69.9	22.422	0	172.13
25.9380207	45.3	24.279	0	45.548
26.3813801	44.1	59.029	0	86.607
27.1042996	14.6	32.849	0	6.9214
20	5.2	47.355	0	2.2627
26.6200295	29.6	46.006	0	48.19
25.4725304	38.1	35.575	0	18.693
29.3194599	67	35.618	0	323.31
29.0501709	64.2	16.774	0	17.568
25.4421806	25.5	24.862	0	24.194
26.6567593	30.2	14.54	0	45.117
27.1887703	7.5	1507.7	0	157.03
27.7705193	71.4	59.432	0	145.98
20.8514004	75.7	41.154	0	49.959
25.6433697	40.2	12.568	0	23.641
27.2362595	44.4	25.158	0	95.407
25.4715691	24.1	52.263	0	34.02
26.1080895	28.2	31.541	0	31.221
34.1286316	58.7	17.533	0	312.28
29.5902309	30.2	6.3645	0	23.401
28.5354195	25.9	62.97	0	57.987
29.2546196	54.5	63.971	0	323.31
27.0599194	44.3	41.036	0	187.31
26.8261395	35.6	53.201	0	47.567
30.1654301	49.7	113.58	0	265.97
24.7840691	20.9	26.213	0	68.334
32.7125588	61.4	201.54	0	323.31
26.0006905	37.1	23.234	0	38.402
25.9376602	58.3	29.223	0	51.965
25.5767498	8.2	310.59	0	13.026
26.6152592	42.5	20.88	0	30.015
27.7219505	40.4	160.85	0	207.92
32.4155808	70.6	12.482	0	162.48
29.4513607	35.8	13.488	0	75.177
26.2398491	17.9	57.072	0	29.297
27.0288601	73.6	24.145	0	48.613
26.3479195	44.1	38.263	0	39.043
32.5585098	62.5	61.263	0	323.31

25.2638493	23.5	20.467	0	5.2813
24.7828693	22.5	43.42	0	30.405
23.9295807	14	71.204	0	7.5762
20	60.8	21.737	0	52.82
25.1405106	46.6	29.995	0	45.238
25.2715607	52.3	34.401	0	51.339
20	40.7	37.792	0	22.198
24.4406891	26.9	54.645	0	16.22
28.3271008	49.9	95.093	0	323.31
23.8687191	15.1	48.281	0	4.3508
26.1953907	28.6	53.55	0	42.151
23.6799202	16.4	39.939	0	17
26.2784195	43.8	22.677	0	48.435
20	6.6	61.124	0	2.6352
27.8482208	50.6	8.4004	0	25.45
26.3969402	4.8	224.57	0	16.249
24.6986904	18	35.603	0	19.952
25.2803001	26.7	31.642	0	36.033
30.3738899	52.1	45.025	0	323.31
30.5599194	48.8	13.696	0	98.083
32.6765289	50.5	20.519	0	216.7
24.7318993	18.4	53.82	0	30.143
24.31534	14.5	165.61	0	40.425
24.9562893	40.3	27.822	0	72.157
30.7279301	63.2	24.183	0	224.21
24.3217506	34.5	59.866	0	28.099
24.6849594	12.8	34.991	0	3.799
20	13	23.849	0	9.589
27.04072	67.1	8.1302	0	101.35
27.2345295	15.8	113.89	0	44.582
25.5388393	20	50.671	0	8.049
25.2345104	10.5	51.324	0	11.457
27.8382797	38.6	118.75	0	134.83
20	35.8	27.89	0	14.124
29.8652897	72.2	68.031	0	323.31
23.7017593	17	53.797	0	26.172
26.1982193	22.7	43.637	0	16.65
24.4951496	30.3	19.01	0.00033422	1.4368
25.3777905	20.8	66.385	0	47.854
29.1001396	57	36.251	0	197.14
25.4766998	48.1	48.651	0	75.578

28.5276794	31.9	103.76	0	323.31
26.92976	25.1	52.005	0	200.65
24.6389294	19.3	45.291	0	22.717
28.9929409	77.6	28.572	0	323.31
25.8423004	25	37.095	0	29.937
27.2229691	72.6	33	0	262.18
26.1213493	47.7	24.708	0	31.894
30.6040802	78.8	26.905	0	223.53
27.5202808	28.6	8.1996	0	3.283
23.5386009	10.5	32.22	0	6.9681
28.1216908	33.3	25.828	0	115.16
29.0192394	61.4	119.75	0	323.31
30.5272903	67.2	12.909	0	110.5
30.2953701	27.5	50.662	0	238.04
27.4954109	64.8	18.597	0	44.143
29.6668701	49.7	17.673	0	191.05
25.5198898	39.4	17.883	0	25.335
24.0748005	22.5	20.45	0	3.316
26.2486897	30.5	75.576	0	48.371
30.2794094	30.6	41.821	0	323.31
23.86693	44.4	26.671	0	39.887
34.2655602	76.7	106.37	0	323.31
20	15.4	70.793	0	14.457
29.0095902	51.5	35.309	0	137.31
20	9.4	87.372	0	7.0537
25.4394608	35.3	20.752	0	187.28
38.9792595	83.5	224.41	0	323.31
24.4771709	33.9	20.596	0	14.922
25.5918598	33.9	38.55	0	114.6
35.5614891	61	54.585	0	323.31
25.3037205	28.7	57.829	0	41.403
25.0521698	36.6	21.253	0	78.803
28.8180904	40.3	16.582	0	59.635
24.5622692	37.3	67.794	0	45.071
27.4683991	40.5	49.98	0	72.001
24.9998493	34.5	17.096	0	14.026
20	13.5	17.276	0	4.5017
24.9566898	24.7	61.396	0	25.998
25.3933296	27.5	23.691	0	8.301
20	23.4	86.289	0	22.38
29.6833496	63.6	24.273	0	246.25

26.8566208	30.1	42.719	0	41.452
24.9461498	8.2	56.665	0	17.027
24.7465801	52.9	22.713	0	44.085
24.4594498	22	54.586	0	32.606
20	25.7	20.005	0	23.783
26.98522	82.7	8.9059	0	293.98
27.5098991	21.9	26.359	0	85.583
25.3640595	25.2	37.01	0	13.298
27.3023396	49.3	33.302	0	44.357
24.6586704	54.2	27.935	0	61.952
27.3101692	32.5	47.25	0	57.631
25.1867695	31.7	23.48	0	9.0802
24.0079594	30.5	16.669	0	27.282
25.1593094	17	52.055	0	33.263
24.6491604	25.7	53.572	0	29.994
34.0917511	72.5	20.2	0	323.31
27.2893791	38.8	63.223	0	123.43
24.9510498	25.1	20.304	0	23.096
27.4440308	21.1	201.68	0	109.48
28.4781208	51.1	21.392	0	49.623
29.6448193	51.2	65.987	0	227.31
31.3633308	1	221.47	0	323.31
29.4359894	53.2	242.79	0	323.31
24.0879707	21.2	17.723	0	2.0097
29.9713097	54.8	14.532	0	20.82
24.9047699	52	58.363	0	81.813
24.5066395	9.9	104.25	0	5.4504
24.4859695	31.6	22.413	0	15.936
25.5392799	31.8	49.323	0	65.035
26.5646992	23.1	100.03	0	34.34
27.5465698	35.6	15.107	0	21.503
27.0061398	62.3	27.162	0	34.014
23.6310101	33.3	20.247	0	13.77
22.7274208	24.2	17.203	0	2.4811
26.2378902	45.3	31.449	0	219.38
24.8902302	24.8	11.39	0	12.252
28.4779205	38.3	35.35	0	130.86
27.8545399	76.8	14.876	0	42.827
25.7415009	11.9	31.012	0	9.9011
26.8214092	40.6	63.415	0	115.68
24.0878792	9	121.7	0	12.542

25.4114494	27.1	40.933	0	11.719
25.7181892	23.8	30.17	0	14.332
23.9688606	30.7	73.377	0	28.634
26.6569004	46.5	105.05	0	220
27.1067905	50.9	45.778	0	134.37
24.7423191	40.6	98.695	0	204.34
28.1280003	49.5	11.283	0	162.55
25.3628902	53.2	23.218	0	41.545
28.5291691	51.8	73.033	0	189.91
24.4966793	34.5	21.206	0	35.623
24.4655094	26.1	25.768	0	8.0487
31.9550095	68.4	79.637	0	323.31
26.99086	46.8	34.636	0	20.446
29.0603409	52.9	69.743	0	106.11
24.6231594	12.8	44.668	0	16.381
28.3952599	27.8	13.502	0	52.33
25.2422009	33.9	32.363	0	29.754
25.7482491	14.9	113.1	0	7.3288
36.9014092	84.8	41.699	0	323.31
28.1998501	63.2	49.902	0	323.31
24.9333305	13.7	21.636	0	11.788
28.8076191	44.7	43.654	0	126.22
26.5998898	55.8	46.087	0	104.1
30.4496307	10.8	43.224	0	6.2774
25.6030903	39.1	139.33	0	148.55
25.6412392	27.1	37.535	0	14.884
24.2377605	17.7	152.31	0	65.399
24.6989594	17.1	48.203	0	59.129
28.0929508	50.1	37.285	0	235.4
24.8625908	11.8	22.797	0	4.2949
32.3959389	60.3	33.741	0	113.89
24.6337795	18.1	20.473	0	5.5627
34.9025307	54.8	44.835	0	229.55
26.19524	36.4	35.116	0	24.125
28.5632591	66	28.934	0	122.89
29.3601799	53.3	22.623	0	10.809
26.4183598	64.3	14.66	0	9.8407
24.9642391	42	38.43	0	21.632
24.5935993	48.2	20.943	0	32.281
26.91148	53.7	29.827	0	110.96
26.0369492	18.1	87.626	0	127.81

29.6777592	36.7	9.649	0	96.44
25.8955994	21.3	136.85	0	8.6837
24.24967	11	84.408	0	15.835
25.0486393	39.4	65.777	0	67.56
25.6387291	6	32.757	0	3.0346
27.8601208	51.1	54.973	0	62.603
29.3220196	41.4	24.666	0	159.21
24.0689907	17.4	32.061	0	3.9214
29.0897198	22.2	79.98	0	34.468
28.5703297	61.4	36.058	0	323.31
24.6918392	30	92.538	0	43.691
26.2890701	52.6	26.063	0	28.036
27.1982594	63.1	35.469	0	272.96
29.7346306	48.5	14.339	0	58.419
24.9806309	34.2	9.4636	0	17.029
24.8326302	40.6	7.5406	0	2.6021
25.1219101	49.1	58.158	0	67.964
23.9550896	37.9	118.25	0	131.51
25.7174606	30.5	85.853	0	71.162
30.7184906	81.2	27.734	0	323.31
22.4605103	53.7	122.39	0	229.6
27.4048691	39.6	71.896	0	135.49
24.8765698	16.1	56.345	0	8.0089
26.2722492	25.6	102.95	0	50.558
25.7358608	34.3	63.797	0	284.89
25.1136208	19.9	36.495	0	24.92
26.4451809	22	68.885	0	32.278
20	9.6	83.311	0	9.1622
27.2900009	52.8	44.603	0	143.16
27.5909901	12.5	24.92	0	21.181
27.5197601	46.4	75.803	0	86.399
20	21.9	35.961	0	24.645
26.1957703	49.8	30.895	0	134.2
29.5022392	46.6	23.759	0	262.98
27.4229393	43.4	16.996	0	36.818
28.5466099	79.2	45.878	0	237.43
25.2931995	14.4	55.312	0	22.202
28.3733902	17	17.668	0	229.78
22.5406208	22.2	76.517	0	86.645
29.6909905	67.3	26.082	0	144.01
26.8090706	60.2	26.883	0	185.58

27.6110497	25	25.331	0	45.426
32.2786598	27.5	74.276	0	315.39
24.5857792	30.3	26.581	0	30.51
24.7074604	28.3	103.09	0	123.36
23.8859501	8.9	387.13	0	82.654
25.5878906	60.6	22.781	0	139.98
25.3173809	18	60.143	0	13.113
28.9025993	63.1	14.771	0	173.65
20	24.5	21.28	0	83.212
26.0972595	88.5	5.8649	0	9.3087
20	31.6	69.298	0	152.61
28.4954891	55.7	15.285	0	75.986
23.9302197	42.3	53.707	0	222.61
27.2101994	42	16.016	0	28.204
24.5298691	1.8	129.33	0.00097056	0.86566
20	44.8	16.503	0	16.115
29.9035397	85.1	24.247	0	323.31
23.0523891	25.3	38.17	0	17.347
24.6357803	19	94.365	0	10.292
24.9267407	56.1	27.576	0	110.26
26.1673908	38.9	49.224	0	42.943
28.8076191	68.1	20.644	0	180.09
25.2294598	50.8	27.088	0	42.441
26.8197002	24.9	592.07	0	219.43
26.9777107	43.2	80.44	0	189.22
26.4486904	12.2	14.449	0	3.0317
25.7099094	49.6	107.74	0	265.03
25.6558609	30.7	77.018	0	85.037
27.2107601	43.8	75.818	0	198.57
31.7410107	77.8	49.908	0	323.31
26.5035	18.9	232.07	0	79.044
25.1900501	47.7	29.769	0	67.368
30.9854908	69.7	44.469	0	323.31
26.99259	54.1	31.058	0	54.424
29.2309399	75.3	26.625	0	134.04
27.9663696	30.7	104.26	0	282
27.5498104	66.9	35.234	0	109.56
31.0954094	70	46.662	0	323.31
28.1087894	38.2	15.048	0	55.81
24.9120503	22.5	40.332	0	5.6495
28.0336494	47.9	18.002	0	155.2

29.2215195	45.2	19.173	0	20.805
25.3824806	28.4	9.8757	0	3.6316
24.9710598	6.9	107.88	0	4.069
27.7872505	37.5	23.263	0	51.089
26.4103794	53	57.27	0	178.5
30.6926193	68.2	54.549	0	323.31
29.7939301	55	46.915	0	323.31
28.3141899	32.5	17.655	0	30.241
25.2570305	37.1	55.683	0	73.996
28.1527691	53.7	112.48	0	323.31
26.9183197	65.2	64.43	0	183.46
28.4047508	32.9	17.281	0	64.72
20	18.5	57.537	0	22.049
28.7115803	26.3	94.848	0	168
25.1134701	16.1	37.834	0	6.0533
26.2874107	25.7	71.77	0	38.928
27.1705494	49.3	16.02	0	45.758
28.1946507	11.1	97.417	0	286.81
32.3813591	74.7	10.872	0	90.795
30.3963203	36.3	18.526	0	93.396
27.8919201	72.4	35.712	0	289.76
29.0629597	47.8	82.632	0	323.31
31.3055801	53.2	45.871	0	310.97
32.3004608	46.1	24.872	0	68.927
26.9893398	36	58.466	0	116.29
28.2154007	44.2	19.194	0	55.033
26.1470299	28	10.643	0	3.0869
27.8272991	40.1	72.066	0	233.76
27.9737206	37.7	130.89	0	155.86
27.3354302	42.9	57.819	0	127.97
33.5157089	75.2	16.728	0	323.31
28.2794094	63.6	23.021	0	193.75
24.8555698	39.1	24.256	0	5.2383
25.7803707	31.1	14.486	0	37.887
27.5695705	31.8	32.017	0	15.334
24.7854691	27.5	67.709	0	20.078
23.8454609	14.3	27.265	0	4.0473
27.2094593	47.6	15.86	0	18.454
28.1915493	26	75.68	0	73.709
30.2188206	49.6	55.161	0	323.31
27.6887894	62.5	39.959	0	167.26

31.4647007	68.8	96.264	0	323.31
29.8618908	34.7	18.414	0	185.48
26.9799995	72	20.688	0	118.52
26.6972408	22.6	36.344	0	24.553
26.8241997	31.5	47.903	0	34.355
29.5853996	69.3	17.17	0	150.73
28.1780205	61.7	54.584	0	233.42
36.3039894	72.6	59.421	0	323.31
20	5.9	89.233	0.01825	-0.71914
25.2885895	41.8	34.619	0	82.89
26.3936691	35.3	18.319	0	31.227
25.1080895	28.2	41.344	0	75
24.3634605	20.4	33.921	0	16.508
25.1071301	40.5	33.241	0	13.33
28.9385109	27.7	10.741	0	4.1658
31.2151203	72.4	94.458	0	323.31
28.1333008	60.5	19.637	0	169.28
27.7511692	44.5	26.601	0	108.95
28.1932392	44.7	73.732	0	323.31
28.89954	66.7	46.643	0	323.31
28.7396603	39.7	72.335	0	231.79
27.4467907	29.2	22.642	0	14.083
29.2894707	65.9	41.304	0	204.88
27.4961796	32.2	51.639	0	41.68
24.8399506	26.7	37.74	0	11.139
26.02952	22.1	10.998	0	35.757
24.1400108	37.1	59.929	0	43.602
23.7634392	34	54.741	0	52.144
28.2802506	42.4	148.91	0	167.21
26.3365593	44.2	32.733	0	26.846
24.8503799	13.3	162.87	0	13.182
28.1998501	58.9	46.65	0	133.36
24.9572201	21.3	26.757	0	30.284
25.2024002	28.1	23.721	0	28.674
28.2766209	73.4	58.246	0	213.93
27.7451592	35.3	17.309	0	8.0933
27.0012093	39.4	23.633	0	71.634
25.0587101	23.4	74.597	0	20.895
24.9007607	31.8	28.121	0	18.52
25.8456097	31.7	44.699	0	41.335
26.4800396	49.7	38.696	0	48.288

27.9373093	54.5	15.764	0	63.774
27.5372009	54.9	39.091	0	77.358
27.9578705	37	68.018	0	229.09
26.5253601	40.6	19.024	0	209.62
31.3878708	73.7	6.2752	0	26.587
28.0948696	61.5	36.967	0	145.15
24.0618401	25.6	59.263	0	14.672
25.2059403	20.3	57.393	0	6.8697
26.9066696	34.5	105.62	0	106.27
27.0822296	39.8	38.18	0	89.498
26.4507599	52.8	67.85	0	93.944
29.6524792	53.8	69.925	0	323.31
27.5879898	38.6	93.73	0	159.76
22.2255306	75.3	45.815	0	155.78
26.8556709	17.8	72.298	0	165.63
25.4397392	28.8	53.871	0	95.454
27.1913109	73.3	9.5567	0	66.11
23.3053608	21.3	26.751	0	74.148
27.9314594	63.2	23.619	0	59.685
27.5634003	78.5	32.293	0	192.57
29.6027203	21.9	70.53	0	74.436
27.1679592	1.6	130.86	0	14.511
27.3794003	17.6	374.54	0	52.074
27.6497898	44.7	133.88	0	187.7
28.4261799	37	15.903	0	50.575
27.2921104	47.5	42.748	0	57.736
24.0341396	20	70.839	0	35.891
28.4106598	50.9	35.922	0	169.22
30.14114	49.6	28.303	0	323.31
27.2021008	53.3	62.676	0	323.31
23.9491291	24.1	22.573	0	12.227
28.1591396	45.1	57.268	0	323.31
25.3594093	18.8	31.305	0	23.19
24.6675205	33.9	41.408	0	19.878
25.6818008	37.1	49.804	0	129.85
28.9096203	51.1	21.112	0	88.654
31.0361004	68.5	81.864	0	323.31
27.8159809	36.3	36.198	0	67.247
25.3787193	25.2	58.402	0	36.85
27.5813999	58.2	22.557	0	27.815
29.7533093	60.8	48.967	0	323.31

32.5024681	53.3	115.6	0	323.31
30.4039593	51.9	14.633	0	46.901
25.6787396	3.8	471.63	0	13.81
28.3522492	20.8	17.156	0	7.3026
26.6961708	23	16.867	0	10.211
25.2834091	36.9	89.638	0	51.521
29.5865307	54.4	29.134	0	133.79
25.9385605	50.8	29.093	0	68.27
26.0498009	32.1	69.501	0	13.288
26.9561501	57.6	57.116	0	168.08
27.1008892	39.3	40.475	0	74.789
25.5125904	22.8	22.436	0	9.5641
25.3088703	12.1	109.19	0	63.922
29.3105106	65.4	62.338	0	323.31
28.9795094	21.7	29.463	0	33.144
29.3426094	39.2	21.593	0	128.52
24.7645607	33.3	33.594	0	58.059
29.0942097	29.4	28.407	0	32.171
29.4281597	34.6	27.697	0	54.821
25.8845291	38.7	25.996	0	15.649
27.2332497	52.2	51.484	0	141.53
27.00881	62.9	29.411	0	127.85
27.7735405	31.8	83.26	0	116.84
32.2111816	64.6	9.5409	0	18.672
25.5224705	12.6	84.953	0	14.642
26.0600491	18.4	202.78	0	50.299
24.9260998	22.2	69.616	0	23.055
29.0973797	58.5	35.011	0	154.48
28.7851296	56.7	14.981	0	296.39
36.7979813	86.9	54.107	0	323.31
24.9875908	33.3	22.235	0	37.669
23.9336395	34.4	21.42	0	10.546
26.9544907	30.8	6.8296	0	3.0274
30.3682804	66	68.367	0	323.31
31.1933098	59.6	20.681	0	323.31
26.8415794	71.2	20.19	0	80.225
24.1647701	9.5	216.43	0	20.606
29.4230995	55.6	34.95	0	86.239
25.1661091	28.3	13.729	0	4.8611
25.4950008	40.7	35.217	0	113.91
25.9333305	18.7	46.378	0	38.999

29.2408199	38.1	9.364	0	34.484
28.4836597	62.3	45.23	0	323.31
29.5705795	39.8	34.036	0	118.9
27.4914398	51.5	46.751	0	75.081
30.5627499	81.9	38.613	0	323.31
31.3846893	24.5	41.786	0	199.42
22.9145699	0.6	615.36	0	6.6726
25.8320694	14.6	315.9	0	90.968
30.2428608	21.6	412.8	0	323.31
27.6908608	39	75.887	0	130.41
30.2314606	48.4	14.895	0	83.33
25.08918	39.7	35.717	0	20.399
28.4287396	60.3	37.133	0	233.26
26.47715	16.5	75.784	0	141.2
30.9609909	50.6	9.897	0	39.743
24.6852799	30.2	139.35	0	66.927
28.9562092	29.2	7.9743	0	27.286
24.6165009	67.7	14.565	0	47.303
26.5278301	35.1	86.801	0	118.81
26.2242203	67.1	36.312	0	269.45
27.9546604	62.2	88.5	0	323.31
30.2322598	71.8	29.798	0	222.03
25.2417297	20.6	35.15	0	9.3308
29.9364891	73.7	33.818	0	323.31
32.5892181	63.4	29.971	0	323.31
23.6290093	18.3	100.42	0	58.434
26.4369507	21.1	137.89	0	93.753
27.1263294	18.9	97.17	0	34.875
28.5023308	70.8	61.004	0	279.32
26.9421291	33	60.309	0	132.97
28.3475609	57.5	71.861	0	155.03
27.7201901	30.7	74.049	0	104.2
24.8265305	11.5	69.682	0	7.0343
26.8493595	0.6	473.02	0	26.132
26.3659096	51.5	82.555	0	112.71
25.5222302	20.6	17.854	0	17.011
28.0191898	37.3	41.619	0	168.05
27.0685597	23.2	52.359	0	47.467
26.4409809	55.1	53.259	0	170.7
24.7716293	24	28.137	0	6.0463
25.0344791	37	58.91	0	53.536

25.2230606	14	158.24	0	11.7
28.9375591	2.9	224.27	0	293.7
24.0627499	15.3	85.544	0	11.46
23.7236996	13.7	25.94	0.0046411	0.19817
29.6835709	39.6	11.998	0	121.81
26.8987408	69.6	59.278	0	146.28
28.3692398	41.5	144.27	0	323.31
27.8249302	52.4	13.85	0	104.99
24.4467602	7.9	279.57	0	18.74
24.7961502	37.1	51.378	0	103.53
26.3404694	36.1	33.648	0	323.31
26.4419804	29.1	57.255	0	19.206
24.6585102	25.1	72.884	0	90.951
24.9036598	6	50.956	0	16.956
24.2697105	46.9	38.659	0	79.041
25.5365295	68.8	13.351	0	150
29.4194298	35.3	24.951	0	31.095
26.1119995	37.3	58.089	0	88.517
26.2385998	41.5	11.737	0	5.7895
20	10.4	66.125	0	82.496
24.5504494	18.1	24.394	0	85.298
30.0111904	66.3	18.676	0	55.404
27.2318707	65.6	21.176	0	58.14
30.5436096	61.3	71.299	0	323.31
31.6742191	67.4	265.74	0	323.31
26.2136402	8.1	65.445	0	9.6859
24.9131508	23.8	45.644	0	15.224
23.7567406	51.9	21.301	0	142.59
24.4188595	28.4	48.474	0	11.257
28.9819603	43.6	29.963	0	61.313
28.8959999	43.1	30.994	0	87.361
25.5246792	79.8	19.112	0	105.99
28.9086208	49.7	21.029	0	28.49
28.5044594	33.9	68.375	0	323.31
27.2672291	41.6	101.18	0	84.679
24.1178303	18.9	41.336	0	7.7258
24.6674709	8	29.58	0	5.1637
25.2596893	14.9	102.9	0	28.979
25.0634499	40.9	39.218	0	43.639
32.2930985	72.7	8.2955	0	12.02
25.5241509	28.8	51.635	0	23.422

27.5894909	55.6	30.873	0	105.31
34.8804817	86.1	45.415	0	323.31
25.9152508	55.2	16.048	0	25.838
27.1655693	57	23.331	0	65.296
24.0084705	6.6	157.11	0	10.664
29.2214298	29.4	24.325	0	57.088
31.5186005	86.2	30.383	0	311.85
28.3934994	45.4	57.569	0	168.64
23.6676292	31.6	79.318	0	146.94
29.1855297	62.2	103.1	0	323.31
23.6002598	16	38.649	0	4.6087
31.9234409	71.8	278.3	0	323.31
26.3691998	19.9	31.215	0	40.18
25.0043201	30	38.676	0	27.897
26.9425697	39.3	82.565	0	142.46
27.5069599	62.7	45.604	0	129.75
24.8562908	38.9	43.446	0	95.754
29.1300106	48.6	88.132	0	323.31
24.8478108	52.4	23.685	0	96.53
27.7418194	45.7	120.29	0	300.02
25.0816002	31.3	57.817	0	39.208
24.6054096	52.1	19.055	0	65.028
26.3348198	46.5	19.267	0	23.598
23.9959297	23.5	58.485	0	8.5963
24.9542503	12.6	59.726	0	5.4139
23.6449299	7	244.51	0	13.897
25.4347591	50.6	48.795	0	132.22
28.8605003	35.6	23.647	0	58.778
24.17379	29	49.876	0	71.004
24.1234493	18.3	39.385	0	14.258
25.5862904	25.9	20.232	0	48.827
24.16362	17.2	52.644	0	23.011
27.7901707	70.2	34.786	0	322.03
24.8402901	10.1	262.35	0	56.099
27.2992897	47.7	51.252	0	323.31
27.2785301	42.7	59.556	0	93.967
28.7752991	48	39.851	0	278.89
24.51857	4.5	55.903	0	4.918
26.7751808	20	60.912	0	58.583
26.3344593	31.1	24.93	0	60.935
30.61096	50.9	6.3392	0	64.911

28.4988403	64.3	14.936	0	43.779
24.86623	26.7	59.069	0	14.736
24.3917904	28.6	27.002	0	44.248
27.4857693	71.3	11.666	0	74.51
31.4921894	74.9	50.147	0	323.31
25.1842003	40.1	34.849	0	123.4
30.3851509	0.6	481.28	0.0034407	0.39909
25.3505707	13.7	110.98	0	31.443
29.5383396	96	16.81	0	211.74
34.8828087	86.2	51.874	0	323.31
29.0573692	59.7	98.577	0	323.31
25.9999199	13.6	140.61	0	21.046
26.7989693	33.4	40.838	0	104.77
26.50103	23.1	119.7	0	129.13

M2- (1day)

MS/MS Coun	Unique pepti	Razor + uniqu	-Log Student'	Student's T-test q-value w- (1day)_M2-
N	N	N	N	N
6	3	3	10.9221063	0
23	7	7	9.69845358	0
23	7	7	9.48960438	0
12	6	6	9.04297094	0
42	7	7	8.99097155	0
30	10	10	8.92952823	0
38	8	8	8.86996058	0
223	6	6	8.83382761	0
13	3	8	8.25672432	0
37	8	8	7.93754637	0
17	5	5	7.84587842	0
24	7	7	7.52615381	0
23	7	7	7.52064734	0
11	4	4	7.50752655	0
20	2	2	7.13445075	0
33	8	8	7.1210087	0
46	0	2	7.02835294	0
18	11	11	6.99385227	0
37	5	5	6.91937052	0
13	1	5	6.91927989	0
36	11	11	6.90781032	0
49	14	14	6.85243621	0
11	3	3	6.74436398	0
10	6	6	6.64163818	0
25	7	8	6.63474454	0
7	2	2	6.6045024	0
1629	99	119	6.60360256	0
116	37	37	6.59194317	0
8	3	3	5.77037621	0
106	10	13	5.71995744	0
207	26	26	5.64166415	0
494	3	25	5.51951823	0
54	13	13	5.48290727	0
56	22	22	5.4767974	0
496	43	77	5.47176163	0
42	9	9	5.36401221	0
286	52	52	5.32012354	0
71	22	22	5.28025613	0
25	3	3	5.15976943	0

2243	3	483	5.11393852	0
10	6	6	5.11164302	0
135	16	16	5.06237478	0
178	28	28	5.01796916	0
64	9	14	4.97902453	0
9	4	4	4.97261525	0
182	15	15	4.94701035	0
20	0	3	4.94695609	0
43	8	8	4.86500309	0
37	9	9	4.84948549	0
1348	27	27	4.78867737	0
501	42	42	4.76674218	0
88	11	11	4.6164505	0
97	16	16	4.59090317	0
95	14	14	4.56799974	0
26	12	12	4.4956719	0
190	11	11	4.45297022	0
319	35	36	4.36347299	0.001192982
3127	2	248	4.33445427	0.001172414
178	0	3	4.30314861	0.001152542
289	35	35	4.28356177	0.001133333
205	36	36	4.23442364	0.001114754
94	6	6	4.22824435	0.001096774
80	5	5	4.12020181	0.001904762
37	5	5	4.07519396	0.001875
52	5	8	3.86538632	0.001846154
57	8	8	3.85111587	0.001818182
178	19	19	3.80050622	0.001791045
116	11	11	3.79691116	0.001764706
100	15	15	3.78343566	0.00173913
68	4	4	3.77236932	0.001714286
1381	3	28	3.74019032	0.001690141
29	6	6	3.72967078	0.001666667
726	1	44	3.72613	0.001643836
84	13	13	3.70375082	0.001621622
320	37	37	3.70347974	0.0016
68	12	12	3.68004708	0.001578947
104	11	11	3.6691011	0.001558442
210	27	27	3.66089585	0.001538462
27	3	3	3.6557625	0.001518987
64	13	13	3.63466532	0.0015

109	18	18	3.58360261	0.001481481
102	16	16	3.57185966	0.002195122
87	20	20	3.56362736	0.002168675
2499	0	223	3.54246952	0.003142857
30	4	4	3.53108012	0.003105882
14	0	2	3.48811634	0.003627907
348	36	36	3.47765093	0.004091954
370	79	79	3.47757768	0.004045455
88	19	19	3.47658667	0.004
286	40	40	3.44023957	0.004444444
65	8	8	3.42038026	0.004395604
64	11	11	3.39206472	0.004913043
262	33	33	3.38328391	0.005376344
69	13	13	3.37333081	0.005319149
168	2	12	3.37084689	0.005263158
274	17	17	3.36956867	0.005208333
248	0	4	3.3681346	0.005154639
156	8	8	3.3557261	0.005102041
25	6	6	3.3370608	0.005050505
66	11	11	3.31470413	0.005
689	24	24	3.3140881	0.004950495
55	14	14	3.29982146	0.004901961
152	23	23	3.29863907	0.004854369
91	13	13	3.24706035	0.004807692
138	19	19	3.23376538	0.004761905
26	10	10	3.23354578	0.004716981
16	6	6	3.22538244	0.004672897
77	23	23	3.22505919	0.00462963
224	45	45	3.21466981	0.005174312
94	12	12	3.19096007	0.005127273
95	9	9	3.1731231	0.005081081
32	15	15	3.16954305	0.005035714
356	36	36	3.15884809	0.00499115
51	7	7	3.10304885	0.004947368
192	68	68	3.08794033	0.004904348
33	6	6	3.08518324	0.004862069
230	17	18	3.06917185	0.004820513
44	11	11	3.06811879	0.004779661
29	5	5	3.06483392	0.004739496
330	25	25	3.06127666	0.0047
57	5	5	3.06127315	0.004661157

78	11	11	3.05989866	0.004622951
27	5	5	3.04993763	0.00500813
77	13	13	3.04630473	0.004967742
77	4	4	3.04325058	0.004928
37	8	8	3.01380176	0.004888889
20	7	7	2.98828182	0.004850394
416	35	35	2.97487462	0.0048125
82	11	11	2.97152834	0.004775194
625	26	26	2.95408515	0.004738462
160	19	19	2.94644201	0.00470229
35	7	7	2.94369467	0.004666667
137	17	17	2.93806129	0.004631579
45	9	9	2.93675161	0.004597015
110	15	15	2.92972185	0.004562963
94	15	15	2.92602158	0.004529412
101	14	24	2.91172552	0.00449635
100	3	13	2.90586451	0.004463768
59	6	6	2.88847266	0.004431655
64	13	13	2.88672817	0.004771429
241	33	33	2.86631442	0.004737589
275	15	15	2.83166031	0.005464789
48	6	6	2.83149779	0.005426573
132	21	21	2.82818471	0.005861111
41	9	9	2.81896269	0.00582069
58	6	6	2.8022106	0.006164384
399	27	28	2.78794943	0.006122449
91	20	42	2.78268608	0.006081081
74	10	10	2.7774541	0.006040268
117	10	10	2.77672237	0.006
164	18	18	2.77598059	0.005960265
94	12	12	2.7746654	0.005921053
22	0	3	2.75761013	0.005882353
129	14	14	2.7503549	0.00612987
156	13	13	2.74582193	0.006090323
2653	141	141	2.74125426	0.006435897
284	27	27	2.73941909	0.006394904
975	13	30	2.73704403	0.00635443
41	4	4	2.73541452	0.006314465
606	26	26	2.73340644	0.006275
68	10	10	2.7333894	0.006236025
223	17	17	2.72370825	0.006493827

365	19	32	2.72260723	0.006453988
217	23	23	2.70996784	0.006414634
50	8	8	2.70309143	0.006375758
274	29	29	2.70273257	0.006337349
82	9	9	2.70087636	0.006299401
315	20	20	2.70049044	0.006261905
79	8	8	2.69948784	0.006556213
284	8	8	2.68216541	0.006517647
102	11	11	2.67679926	0.006479532
80	20	20	2.6637595	0.006790698
33	8	8	2.65921366	0.006751445
303	1	29	2.64041908	0.006942529
696	50	50	2.63779321	0.006902857
91	12	12	2.61993506	0.007340909
47	7	7	2.61525537	0.00759322
40	4	4	2.60172939	0.007932584
495	95	95	2.5993086	0.007888268
37	6	6	2.57207902	0.007844444
86	7	7	2.57136779	0.007801105
45	6	6	2.5693289	0.007758242
25	11	11	2.56785848	0.008087432
151	6	6	2.55760613	0.008304348
446	21	75	2.54767802	0.008864865
687	18	18	2.52279586	0.009462366
2108	59	93	2.51986348	0.00973262
10	2	2	2.51959843	0.009680851
44	10	10	2.51923853	0.00962963
56	7	7	2.51521586	0.009789474
86	2	16	2.49773322	0.009989529
172	19	19	2.49746806	0.0099375
643	77	77	2.49576935	0.00988601
130	15	15	2.47925127	0.009835052
139	23	23	2.47498298	0.009784615
85	13	13	2.46198	0.01
234	19	19	2.4616476	0.009949239
92	24	24	2.46139943	0.00989899
328	25	25	2.45563299	0.009849246
166	17	17	2.45298622	0.0098
8	2	2	2.44841286	0.010069652
20	7	7	2.44548029	0.010019802
54	12	12	2.44074954	0.009970443

693	1	34	2.44034597	0.009921569
261	17	17	2.43991103	0.009873171
209	17	17	2.43347444	0.009825243
139	16	16	2.43091414	0.009777778
150	9	10	2.41692147	0.010384615
32	5	5	2.41072049	0.010334928
123	11	11	2.39830551	0.011390476
288	16	17	2.39273838	0.011582938
37	9	9	2.39218337	0.011528302
29	7	7	2.38378237	0.011699531
83	18	18	2.38339482	0.01164486
693	23	23	2.38055883	0.011590698
154	17	17	2.37306046	0.011777778
34	8	8	2.37162953	0.011723502
18	3	3	2.36949778	0.011669725
322	16	16	2.36320813	0.011817352
197	22	22	2.3416688	0.012236364
53	3	6	2.33357601	0.012180995
5220	1	498	2.32547427	0.012126126
67	7	7	2.32370044	0.012071749
23	8	8	2.31909184	0.012642857
702	1	93	2.31371242	0.012586667
230	19	19	2.31054101	0.012530973
87	4	4	2.30765289	0.012475771
61	9	9	2.30444539	0.012877193
20	7	7	2.29895698	0.013082969
182	26	26	2.29563151	0.013026087
101	20	20	2.29464502	0.012969697
62	17	17	2.29156903	0.012913793
99	9	9	2.29042293	0.012858369
242	9	9	2.27878047	0.012803419
40	6	6	2.27877978	0.012748936
42	7	7	2.26538791	0.013135593
21	4	4	2.25293001	0.013518987
31	6	6	2.24206314	0.014117647
71	17	17	2.23954731	0.014058577
51	11	11	2.22855226	0.014466667
139	30	30	2.22838632	0.014406639
150	7	7	2.2253172	0.014347107
120	9	9	2.22290963	0.014469136
85	12	12	2.21925761	0.014409836

189	17	17	2.21704799	0.01435102
4807	85	85	2.21378167	0.014471545
123	14	14	2.20985245	0.014688259
64	14	14	2.20864883	0.014629032
107	7	7	2.2078374	0.014570281
111	20	20	2.19645067	0.014784
163	19	19	2.19609969	0.0147251
48	17	17	2.19567964	0.014666667
308	16	16	2.18073473	0.015383399
51	8	8	2.18021278	0.015322835
205	20	20	2.17487416	0.015262745
105	8	8	2.17123817	0.015203125
1372	3	37	2.15706674	0.015315175
327	34	38	2.15673497	0.015255814
60	5	5	2.15657984	0.015196911
110	12	12	2.15480533	0.015138462
114	8	8	2.15209503	0.015417625
432	68	68	2.14396685	0.015816794
136	17	17	2.14265755	0.015756654
35	5	5	2.14190394	0.01569697
131	8	8	2.13998948	0.015637736
160	15	15	2.1381458	0.015578947
991	25	25	2.13619129	0.015520599
32	0	2	2.13189856	0.015656716
96	17	17	2.12944495	0.015598513
67	11	11	2.12482394	0.015792593
24	4	4	2.1231497	0.015734317
1358	27	35	2.11987016	0.015676471
65	13	13	2.11617348	0.015619048
123	16	16	2.10818175	0.016029197
54	8	8	2.10218507	0.01632
270	26	26	2.09984028	0.01626087
54	11	11	2.0985633	0.016202166
68	12	12	2.09342511	0.016143885
312	2	33	2.09339482	0.016086022
106	10	10	2.09287638	0.016028571
59	11	11	2.09206307	0.01597153
889	49	50	2.0854932	0.016070922
164	19	19	2.08106905	0.016254417
28	10	10	2.07606575	0.016352113
29	6	6	2.06843352	0.016477193

83	8	8	2.06609013	0.016601399
15	5	5	2.06535113	0.016543554
117	12	12	2.06088509	0.016722222
1288	80	80	2.05827489	0.01666436
56	5	5	2.05372647	0.017006897
42	2	23	2.05164094	0.017140893
58	5	6	2.04721769	0.017232877
350	22	22	2.03906695	0.017542662
27	5	5	2.03838327	0.017482993
657	4	8	2.03690008	0.017627119
57	13	13	2.03468856	0.017567568
172	9	9	2.02316177	0.01823569
111	18	18	2.02200282	0.018402685
271	14	14	2.01929056	0.018341137
185	11	21	2.01449466	0.018506667
72	7	7	2.01061664	0.018604651
144	9	9	2.00929419	0.018543046
131	13	13	2.00792831	0.018481848
243	22	22	2.00660295	0.018578947
48	6	6	2.00344108	0.018518033
10	4	4	2.00334808	0.018457516
159	17	17	2.00325707	0.018397394
80	11	11	1.99981984	0.018337662
74	13	13	1.98624597	0.019042071
384	28	28	1.98124194	0.018980645
48	11	11	1.97193821	0.019382637
1713	154	154	1.96859767	0.019705128
3188	75	78	1.96113108	0.020677316
17	10	10	1.96107567	0.020611465
152	22	22	1.96048708	0.020546032
68	8	8	1.95357362	0.020683544
58	10	10	1.94691641	0.021602524
979	34	94	1.94607436	0.021534591
63	18	18	1.9455859	0.021467085
41	10	10	1.94244894	0.0214
91	19	19	1.93908897	0.021495327
132	25	25	1.92861149	0.021726708
68	8	8	1.92335924	0.02180805
49	8	8	1.91648041	0.022419753
374	18	18	1.91586085	0.022350769
710	33	33	1.91037273	0.022687117

407	12	12	1.90945663	0.022617737
309	21	21	1.90720204	0.022719512
84	25	25	1.90661341	0.022650456
72	12	12	1.90213999	0.022739394
20	9	9	1.9009794	0.022924471
112	16	16	1.89476927	0.023204819
88	9	9	1.88679908	0.023327327
773	22	22	1.8843325	0.023676647
1077	41	41	1.88224191	0.02360597
217	7	7	1.88162778	0.023535714
22	4	4	1.87685168	0.024237389
31	2	2	1.8764183	0.024295858
100	16	16	1.87560269	0.024224189
14	6	6	1.86982786	0.024317647
164	8	9	1.85804809	0.025055718
229	16	16	1.85246202	0.025719298
195	39	39	1.84629377	0.026530612
1829	2	55	1.84583674	0.026569767
21	8	8	1.84446357	0.026655072
63	10	10	1.84379872	0.026578035
31	10	10	1.83215657	0.027919308
133	20	20	1.82461497	0.028229885
47	9	9	1.82441579	0.028148997
261	38	38	1.82200174	0.028434286
51	10	10	1.82117647	0.028478632
67	8	8	1.81582945	0.028534091
132	13	13	1.81435905	0.028600567
57	12	12	1.81388905	0.028519774
136	7	7	1.81252017	0.028630986
37	1	5	1.81203836	0.028550562
233	9	20	1.81048661	0.028941176
523	20	20	1.80058126	0.02972067
92	11	11	1.7989602	0.029827298
56	15	15	1.79553561	0.030544444
22	7	7	1.78918029	0.031501385
95	12	12	1.78469914	0.031966851
767	114	114	1.78210381	0.031878788
7	5	5	1.78074144	0.031934066
54	14	14	1.77452589	0.032219178
45	11	11	1.77384581	0.032131148
551	24	24	1.77096471	0.032348774

215	60	60	1.76973305	0.032586957
64	4	4	1.76826716	0.032661247
211	18	18	1.76227792	0.033556757
258	24	24	1.75682319	0.033746631
106	16	16	1.756176	0.033655914
79	12	12	1.75577352	0.033683646
189	16	16	1.7519161	0.034342246
1148	43	43	1.75007678	0.034528
120	8	8	1.74650149	0.035
70	14	16	1.74416571	0.035034483
1709	47	55	1.74163011	0.035079365
85	30	30	1.73680778	0.035113456
451	9	9	1.73130796	0.035821053
193	28	28	1.73052749	0.035863517
26	7	7	1.72843878	0.036219895
36	5	5	1.72661256	0.036449086
259	25	25	1.72506068	0.036354167
124	11	11	1.72226066	0.036612987
47	7	7	1.71535412	0.037139896
63	10	10	1.71353304	0.037043928
120	5	5	1.71089477	0.037494845
30	4	9	1.71045378	0.037398458
128	23	23	1.70959525	0.037302564
38	4	4	1.70827541	0.037360614
154	9	9	1.7074467	0.037265306
28	6	6	1.70659212	0.037170483
63	7	7	1.70507909	0.037360406
306	99	99	1.69620154	0.038217722
22	8	8	1.69524167	0.038121212
1765	35	35	1.69197506	0.038287154
151	19	19	1.69102622	0.038462312
129	5	8	1.68541649	0.039388471
211	11	11	1.68522723	0.03956
33	6	6	1.68402681	0.039461347
179	15	15	1.68366589	0.039363184
74	4	4	1.67505109	0.041200993
225	15	15	1.67454804	0.041306931
2975	53	60	1.67383071	0.041204938
163	12	12	1.67378974	0.041103448
64	12	12	1.67228555	0.041140049
462	13	13	1.66786836	0.041539216

55	7	7	1.66392453	0.042239609
190	19	19	1.65959853	0.042809756
400	32	32	1.65720987	0.042822384
27	10	10	1.65232634	0.043456311
169	24	24	1.64901162	0.043903148
211	13	13	1.64756974	0.043797101
138	14	14	1.63664133	0.044568675
16	3	3	1.63364687	0.044586538
93	15	15	1.62846878	0.044690647
40	13	13	1.62252346	0.045550239
23	9	9	1.61932518	0.045823389
9	3	3	1.61911035	0.045714286
88	12	12	1.61904259	0.045605701
3	2	2	1.61901221	0.04549763
37	5	5	1.61900105	0.045390071
7	4	4	1.61863068	0.045783019
12	2	2	1.61857432	0.045835294
45	11	11	1.61847582	0.0457277
4	3	3	1.61845127	0.045620609
17	6	6	1.61837956	0.045514019
24	9	9	1.61823897	0.045407925
42	17	17	1.61803215	0.045302326
12	2	2	1.61727274	0.045197216
14	2	2	1.61717195	0.045092593
19	7	7	1.61713443	0.044988453
14	5	5	1.6169096	0.045013825
23	5	5	1.61688231	0.044910345
9	5	5	1.61635206	0.044807339
41	11	11	1.61610498	0.044704805
6	4	4	1.61590668	0.04460274
11	3	3	1.61588916	0.044501139
21	5	5	1.61575905	0.0444
11	3	3	1.61478628	0.044517007
135	13	13	1.61444413	0.04441629
13	6	6	1.61440814	0.044316027
28	6	6	1.61394232	0.044216216
10	3	3	1.61393126	0.044116854
12	3	3	1.61353942	0.044116592
45	11	11	1.61344015	0.044017897
5	4	4	1.61251994	0.044026786
20	11	11	1.61205534	0.044062361

34	2	9	1.61205399	0.043964444
16	5	5	1.61172813	0.044017738
16	5	5	1.61157939	0.043920354
31	7	7	1.61025913	0.04418543
9	5	5	1.61012344	0.044317181
409	17	17	1.60992058	0.044553846
12	4	4	1.60904249	0.044754386
114	12	12	1.60899626	0.044656455
29	6	6	1.60894889	0.044558952
31	6	6	1.60843535	0.044461874
18	6	6	1.60800814	0.044365217
33	8	8	1.60771613	0.04426898
23	6	6	1.60731784	0.04417316
16	5	5	1.60589298	0.044285097
5	3	3	1.60555436	0.044189655
25	4	4	1.60549905	0.044094624
39	11	11	1.60548244	0.044
102	24	24	1.60526015	0.043905782
30	2	2	1.60520684	0.043811966
59	12	12	1.60429199	0.043820896
25	6	6	1.60346614	0.043829787
18	0	1	1.59999628	0.044059448
105	13	13	1.59941914	0.043966102
454	16	16	1.59885265	0.04387315
6	3	3	1.59815313	0.043907173
63	9	9	1.59739959	0.043814737
77	18	18	1.59718793	0.043722689
163	16	16	1.59510182	0.043958071
14	8	8	1.59461954	0.043866109
11	11	11	1.59433036	0.043866388
78	10	10	1.59372089	0.043775
21	4	4	1.58977882	0.044033264
130	6	6	1.58862395	0.044190871
25	11	11	1.58790821	0.044099379
22	6	6	1.58566497	0.04431405
32	11	11	1.58426314	0.04454433
74	11	11	1.57963685	0.045423868
202	11	11	1.57959766	0.045330595
244	12	12	1.5771252	0.045696721
96	16	16	1.57466726	0.046159509
20	4	4	1.57351017	0.046204082

24	0	1	1.57329237	0.04610998
43	7	7	1.57278302	0.04601626
211	21	21	1.57167761	0.046482759
49	16	16	1.57077777	0.046388664
783	3	35	1.56850462	0.046513131
29	10	10	1.56630169	0.046604839
17	5	5	1.56572477	0.046511066
63	24	24	1.56548964	0.04660241
200	1	26	1.56503958	0.046509018
4	2	2	1.56466026	0.046544
74	7	7	1.56274873	0.046451098
60	10	10	1.56120421	0.046358566
13	8	9	1.56099254	0.046266402
768	21	21	1.5607669	0.046309524
636	33	33	1.55890624	0.046843564
74	8	8	1.55840254	0.046750988
215	14	14	1.55518493	0.047195266
73	10	10	1.55274935	0.047314961
66	12	12	1.55171004	0.047222004
30	4	4	1.55085775	0.047129412
77	6	6	1.54936779	0.047452055
117	14	14	1.54729068	0.047554688
396	24	24	1.54429628	0.047961014
56	8	8	1.5439498	0.047867704
214	24	24	1.54174842	0.047891262
90	11	11	1.53832237	0.047891473
132	17	22	1.53541206	0.048270793
60	0	5	1.53502681	0.04830888
25	8	8	1.53489422	0.0482158
93	1	12	1.53369478	0.048576923
125	9	9	1.53310411	0.048921305
145	9	9	1.53233913	0.048911877
186	11	11	1.52983282	0.049483748
57	10	10	1.52790983	0.049549618
290	22	22	1.52189677	0.050118095
25	5	5	1.52120645	0.050326996
60	3	8	1.51847154	0.050557875
19	6	6	1.51407952	0.051227273
37	5	5	1.51303143	0.051258979
28	9	9	1.51142625	0.051162264
74	23	23	1.50856249	0.051269303

455	62	62	1.50709915	0.051293233
111	12	12	1.50552496	0.051444653
529	42	42	1.50530124	0.051348315
2561	26	26	1.49695569	0.052014953
349	38	38	1.4900006	0.052395522
401	33	33	1.48796474	0.052610801
5	2	2	1.48356186	0.053026022
128	12	12	1.48057615	0.053365492
87	7	7	1.47819381	0.053622222
26	2	2	1.4780891	0.053523105
147	15	15	1.47210807	0.053933579
81	16	16	1.47000769	0.054077348
29	6	6	1.46527981	0.055110294
106	4	4	1.46022759	0.055911927
21	12	12	1.45980398	0.05589011
43	6	6	1.45839755	0.055787934
160	5	5	1.45817769	0.055759124
125	4	4	1.45804816	0.055657559
281	6	6	1.45606783	0.055745455
1561	48	48	1.45341494	0.056203267
93	1	18	1.4532443	0.056101449
96	11	11	1.4438524	0.057164557
113	10	10	1.4425973	0.057249097
18	3	3	1.44067635	0.057218018
132	18	19	1.43923067	0.057208633
296	40	40	1.43399748	0.058111311
41	14	14	1.43322151	0.058007168
71	14	14	1.43286066	0.057903399
148	14	14	1.43011585	0.058357143
107	17	17	1.42972065	0.058253119
122	11	11	1.42891138	0.05824911
64	13	13	1.42510583	0.058813499
268	46	46	1.42273872	0.058950355
339	13	13	1.41633933	0.059936283
21	5	5	1.41614079	0.059830389
254	20	20	1.41355085	0.060183422
48	9	9	1.41078369	0.060521127
108	16	16	1.40930325	0.060513181
86	14	14	1.40646458	0.060835088
106	13	13	1.40600476	0.060728546
57	5	5	1.40239512	0.061104895

44	5	5	1.39937182	0.061186736
118	16	16	1.39465076	0.062292683
205	10	10	1.39221032	0.062831304
40	9	9	1.38980929	0.063041667
70	9	9	1.3872961	0.063299827
492	21	21	1.38380387	0.063896194
21	4	4	1.3817102	0.064297064
43	6	6	1.38032451	0.064406897
1415	49	49	1.37965822	0.064296041
1528	3	74	1.37719026	0.064419244
24	3	3	1.37292336	0.064974271
77	11	11	1.37285866	0.064863014
410	40	40	1.36934149	0.065654701
31	6	6	1.36712362	0.065849829
377	2	25	1.36492837	0.06627598
67	12	12	1.36355048	0.06644898
72	12	12	1.3623478	0.066336163
46	5	5	1.36152598	0.066223729
25	3	3	1.36146233	0.066199662
47	9	9	1.36041966	0.066087838
27	6	6	1.35146321	0.067177066
43	10	10	1.35054947	0.067063973
243	25	25	1.34952127	0.06727395
26	5	5	1.3470751	0.067543624
109	1	10	1.34324824	0.06758459
17	0	8	1.34155162	0.067926421
102	4	8	1.33684989	0.068213689
926	31	31	1.33334002	0.068686667
19	4	4	1.33224539	0.068658902
92	26	26	1.3288771	0.069069767
22	8	8	1.32752437	0.069187396
90	13	13	1.32668349	0.069178808
96	3	14	1.32624826	0.069216529
10	4	4	1.3253238	0.06910231
181	33	33	1.32017137	0.070194399
292	4	4	1.3140558	0.070815789
36	6	6	1.30994784	0.071356322
39	12	12	1.30854835	0.071547541
196	39	39	1.30830161	0.071430442
402	16	19	1.30671557	0.071568627
48	5	5	1.30472182	0.07176509

166	24	24	1.30399376	0.071850163
310	1	78	1.30264951	0.071817886
45	9	9	1.29909692	0.07211039
48	12	12	1.29578927	0.072596434
62	12	12	1.29539763	0.072478964
20	2	2	1.29516818	0.072361874
263	42	42	1.293849	0.072354839
965	20	25	1.2926405	0.072238325
82	12	12	1.28698063	0.07333119
108	14	14	1.27810678	0.07470947
229	33	33	1.27729574	0.074666667
19	6	6	1.27665648	0.0745472
54	4	4	1.27537557	0.074805112
30	5	5	1.2741496	0.074781499
502	28	29	1.27336772	0.074923567
135	17	17	1.27032005	0.075122417
64	10	10	1.2695298	0.075104762
184	19	19	1.26653376	0.075366086
53	9	9	1.26490166	0.075436709
67	10	10	1.26372077	0.075835703
174	19	19	1.26320764	0.075804416
18	6	6	1.25798641	0.077480315
195	26	26	1.25624501	0.077465409
228	13	13	1.2555245	0.077450549
39	6	6	1.25023748	0.078275862
144	14	14	1.240765	0.07971205
507	36	36	1.23969277	0.0797875
160	19	19	1.23888328	0.079762871
140	13	13	1.23602224	0.080367601
174	18	18	1.23509788	0.080323484
272	25	25	1.23059977	0.081031056
48	5	5	1.23017941	0.081190698
56	12	12	1.22879756	0.081145511
16	2	2	1.227028	0.081601236
14	6	6	1.22148137	0.082450617
81	9	9	1.21879209	0.082902928
42	15	15	1.21695895	0.082910769
79	8	8	1.21538323	0.083305684
62	4	4	1.21504383	0.083282209
695	23	23	1.21428635	0.083320061
128	14	14	1.21413904	0.083192661

11	5	5	1.21355126	0.083065649
53	3	3	1.21242642	0.083
248	25	25	1.21183099	0.083050228
192	25	25	1.21130698	0.082924012
93	19	19	1.20925627	0.083040971
80	13	13	1.20607716	0.083448485
40	7	7	1.20032948	0.08408472
22	5	5	1.1982025	0.08444713
218	19	19	1.19720272	0.084579186
165	12	12	1.19599492	0.084692771
278	33	33	1.19371336	0.0848
48	22	22	1.19343502	0.084672673
60	7	7	1.19330154	0.084629685
88	5	5	1.19075352	0.08460479
94	12	12	1.18204728	0.085979073
308	22	22	1.17933295	0.086632836
41	5	5	1.17879947	0.086503726
90	15	16	1.17854331	0.086511905
150	23	23	1.17708197	0.08684101
74	17	17	1.17597742	0.087121662
436	12	21	1.17587294	0.086992593
169	1	24	1.1750593	0.08695858
46	7	7	1.17379865	0.086906942
67	8	8	1.17356304	0.086843658
24	6	6	1.17308473	0.086792342
61	11	11	1.17020434	0.087111765
255	15	15	1.16895345	0.087066079
44	7	7	1.1688674	0.087038123
109	9	9	1.1685673	0.087057101
6634	0	500	1.16812014	0.087163743
51	9	9	1.16787683	0.087036496
65	3	3	1.16676986	0.087002915
61	10	10	1.16610686	0.087097525
158	21	23	1.16593579	0.08697093
467	29	29	1.16457039	0.08704209
118	3	21	1.16172011	0.08746087
821	2	26	1.15982445	0.087727931
142	31	31	1.15890259	0.087901734
95	12	12	1.15820224	0.087774892
30	3	3	1.15745035	0.087740634
95	11	11	1.15724943	0.087689209

172	8	8	1.15413329	0.087954023
39	3	3	1.15224609	0.088292683
146	14	20	1.15149689	0.088309456
143	8	8	1.14883098	0.088555079
272	12	12	1.14615465	0.088805714
74	12	12	1.14544908	0.08867903
84	10	10	1.14011886	0.089435897
45	4	4	1.13883634	0.089906117
50	15	15	1.13708596	0.090073864
59	7	7	1.13146527	0.090808511
154	6	6	1.12956406	0.090889518
154	10	10	1.12830839	0.091066478
163	16	16	1.12770125	0.091084746
35	6	6	1.12240376	0.091887165
73	3	16	1.12220804	0.091757746
122	19	19	1.11987073	0.092061885
50	9	9	1.11507361	0.092882022
30	5	5	1.11249361	0.093245442
22	11	12	1.10888191	0.093955182
548	36	36	1.1083307	0.093902098
124	10	10	1.10294971	0.095368715
61	8	8	1.1007976	0.095810321
25	6	6	1.09679206	0.0965961
59	1	12	1.09560282	0.096840056
48	12	12	1.09495993	0.097111111
56	14	14	1.0916602	0.097642164
164	9	9	1.09001454	0.097933518
150	19	19	1.08804521	0.098030429
30	5	5	1.08799465	0.097895028
61	10	10	1.08731177	0.097925517
78	5	11	1.08589225	0.098231405
306	14	14	1.08507165	0.098173315
64	6	6	1.08469416	0.09810989
35	2	2	1.08274523	0.098924554
15	2	2	1.0815056	0.099046575
33	7	7	1.08113146	0.099004104
13	6	6	1.07959773	0.099797814
196	7	7	1.07916771	0.099732606
95	7	7	1.07694947	0.10013624
42	4	4	1.07598458	0.100255782
87	16	16	1.07579448	0.100119565

312	15	15	1.07563376	0.100043419
145	18	19	1.07345919	0.100428184
226	16	16	1.07080252	0.100741543
56	2	2	1.06818736	0.101464865
67	10	10	1.06793681	0.101327935
55	13	13	1.06766501	0.101191375
8	5	5	1.06553154	0.101577389
230	11	11	1.06432385	0.101596774
94	4	4	1.06384351	0.101519463
22	8	8	1.06228578	0.102300268
158	24	24	1.06109948	0.102441767
155	7	7	1.06107281	0.102304813
81	10	10	1.05991289	0.102515354
114	11	11	1.05414615	0.104394667
125	7	7	1.05174095	0.10482024
790	11	23	1.0511356	0.104765957
350	2	41	1.05067129	0.10473838
107	9	9	1.05042849	0.104599469
119	8	8	1.04893716	0.105112583
209	10	11	1.04859704	0.104973545
35	6	6	1.04448271	0.106140026
38	9	9	1.04126762	0.10707124
40	3	3	1.03599964	0.108722003
31	8	8	1.03397928	0.1093
249	37	37	1.03393422	0.109156373
77	9	9	1.03327033	0.109149606
54	6	6	1.02237032	0.112650066
108	1	21	1.01925416	0.113136126
101	11	11	1.01807875	0.113526797
107	15	16	1.01517828	0.114772846
159	9	9	1.01458056	0.114711864
22	8	8	1.01430955	0.114635417
9	2	2	1.01383225	0.114689207
81	11	11	1.01098092	0.115277922
125	12	12	1.01010444	0.115242542
43	12	12	1.00980795	0.115217617
117	19	19	1.00976191	0.115068564
154	10	10	1.00945867	0.114976744
37	3	3	1.00889029	0.115194839
141	31	31	1.00846666	0.115324742
40	3	3	1.00786383	0.115402831

32	5	5	1.00770971	0.115311054
40	10	10	1.00581977	0.115732991
169	4	23	1.00531208	0.115651282
42	10	10	1.0026705	0.116117798
92	14	14	1.00196614	0.116235294
98	15	15	0.99415792	0.118932312
60	6	6	0.99218983	0.11980102
25	2	2	0.98957272	0.12075414
39	0	7	0.986169	0.12194402
279	47	48	0.9852846	0.121936468
66	12	12	0.98277987	0.122329949
87	9	9	0.98230386	0.122301648
93	10	10	0.97762581	0.123797468
84	15	15	0.97694198	0.123711757
137	18	18	0.97680565	0.123611111
121	10	10	0.97664146	0.123455233
56	7	7	0.97660304	0.123299748
52	11	11	0.9765594	0.123144654
22	5	5	0.97575892	0.123266332
101	9	9	0.9738788	0.123568381
97	9	16	0.97261193	0.124135338
36	8	8	0.97147276	0.12453567
46	5	5	0.96892685	0.125065
74	19	19	0.96864041	0.125273408
54	12	12	0.96798883	0.125471322
21	2	2	0.96644546	0.125957659
50	3	3	0.96589047	0.12600995
45	7	7	0.9638696	0.126757764
51	3	3	0.96180308	0.126992556
82	2	20	0.96140493	0.126973978
62	9	9	0.96085083	0.127034653
44	10	10	0.95972207	0.127114957
33	7	7	0.95645562	0.128118519
64	8	8	0.95604697	0.128098644
29	7	7	0.95504822	0.128152709
135	11	11	0.95358182	0.128393604
61	9	9	0.95127283	0.129351351
172	28	28	0.95100544	0.129192638
17	3	3	0.94995023	0.1295
1246	37	37	0.94737345	0.130609547
115	16	16	0.94591206	0.130801956

16	1	7	0.94209043	0.13185348
16	7	7	0.9369301	0.13382439
13	6	6	0.93542215	0.134109622
47	4	4	0.93414581	0.134476886
1795	3	60	0.93152703	0.135373026
83	10	10	0.93083628	0.135558252
251	9	9	0.92804964	0.13673697
88	13	13	0.92563371	0.137506053
21	4	4	0.92562994	0.137339782
97	12	12	0.92258597	0.138483092
221	28	28	0.92125378	0.139150784
86	8	8	0.91950114	0.139725301
32	4	4	0.91691709	0.141222623
27	11	11	0.91586982	0.141259615
70	17	17	0.91436856	0.141978391
28	10	10	0.91342889	0.142167866
20	1	1	0.91216937	0.142467066
37	6	6	0.9108687	0.142899522
24	11	11	0.90708234	0.144262843
63	13	13	0.9053439	0.145107399
37	4	4	0.90310339	0.145649583
11	8	8	0.90305243	0.14547619
157	12	12	0.90153565	0.146401902
52	18	18	0.90097452	0.146228029
15	5	5	0.90093829	0.146054567
34	6	6	0.89859766	0.147398104
12	2	2	0.89695592	0.14775858
118	16	16	0.89652851	0.1478487
182	11	12	0.89303437	0.149090909
54	7	7	0.89268928	0.149056604
44	8	8	0.89107889	0.149243816
20	2	2	0.89091537	0.149138824
923	24	25	0.88876085	0.15012926
64	8	8	0.88861051	0.150018779
110	19	19	0.88790496	0.150147714
28	3	3	0.88759486	0.150351288
185	12	12	0.88743794	0.150273684
71	9	9	0.88683982	0.150570093
205	26	27	0.88610439	0.150809802
159	29	29	0.88608653	0.150634033
19	8	8	0.88564317	0.15059837

70	8	8	0.88083481	0.152702326
80	9	9	0.87904624	0.153077816
136	8	8	0.8763193	0.154269142
12	4	4	0.87518792	0.154558517
82	21	21	0.87140768	0.156587963
26	4	4	0.86372693	0.160467052
47	14	14	0.86180424	0.161344111
43	8	8	0.85976895	0.162408304
617	33	33	0.85712284	0.163589862
148	15	15	0.85652633	0.163880322
201	31	31	0.85476808	0.164445977
76	10	10	0.85378969	0.164835821
129	16	16	0.85347931	0.164701835
164	29	29	0.85174832	0.165379152
30	6	7	0.84871553	0.167070938
292	17	17	0.8476282	0.167382857
38	5	5	0.84724315	0.167310502
267	4	21	0.84672381	0.167438997
74	18	18	0.84622716	0.167876993
27	7	7	0.84298781	0.169474403
25	9	9	0.84255006	0.169572727
43	10	10	0.84158244	0.16969807
20	9	9	0.84054834	0.170421769
34	6	6	0.83902977	0.171592299
76	1	11	0.83853934	0.171475113
258	32	32	0.83757316	0.172022599
129	22	22	0.83432155	0.173539503
341	24	124	0.83350155	0.17351522
79	13	13	0.83093215	0.174148649
588	23	25	0.82974703	0.174528684
210	24	24	0.82822561	0.17491236
34	6	6	0.82756155	0.174967452
14	4	4	0.82642492	0.175192825
53	9	9	0.82439038	0.175991041
493	44	44	0.82338875	0.176232662
90	11	11	0.82097817	0.177282682
59	24	24	0.82049848	0.177428571
153	26	26	0.81893893	0.178073579
24	11	11	0.81793519	0.178730512
18	1	4	0.8177896	0.178589544
41	17	17	0.8166023	0.17912

164	8	8	0.81655107	0.178921199
50	8	8	0.81255195	0.180266075
70	20	20	0.81245418	0.180124031
14	6	6	0.8123894	0.179924779
83	4	4	0.80871893	0.181462983
107	16	16	0.801916	0.184242826
180	8	8	0.80010713	0.184899669
25	3	3	0.79964205	0.184885463
143	12	12	0.799362	0.184787679
178	10	10	0.79822324	0.185156044
46	11	11	0.79719426	0.185396268
62	0	3	0.7963199	0.185412281
128	12	12	0.79554418	0.185445783
42	7	7	0.79527489	0.185592998
105	12	12	0.79341142	0.186671038
20	4	4	0.79097538	0.188222707
98	12	12	0.78944292	0.188889858
162	12	12	0.78911328	0.188684096
278	29	29	0.78899896	0.188705114
3	2	2	0.78725514	0.190030435
20	6	6	0.78522483	0.19086645
92	4	9	0.78470706	0.191127983
62	12	12	0.78240355	0.192541712
111	14	14	0.78208376	0.192519481
132	14	14	0.78199977	0.192363243
51	3	3	0.77794772	0.194574514
561	20	25	0.77787445	0.194416397
31	4	4	0.7755221	0.195318966
26	5	5	0.77431	0.195948332
37	13	13	0.77199551	0.197341935
100	9	9	0.77071743	0.198199785
176	7	7	0.76767559	0.199287554
42	13	13	0.76599204	0.200085745
195	29	29	0.7659633	0.199931478
86	24	24	0.76394216	0.200389305
80	8	8	0.7596748	0.202264957
93	20	20	0.75953595	0.202399146
188	33	33	0.75867524	0.202515991
85	8	8	0.75774608	0.203113951
1398	21	21	0.75727116	0.203310638
556	3	42	0.75593364	0.204391073

177	1	15	0.75452289	0.205082803
101	16	16	0.75277383	0.20595122
18	10	10	0.75267776	0.205783898
59	13	13	0.75088999	0.207111111
87	6	6	0.74931714	0.208190275
65	8	8	0.74889367	0.208194298
368	31	31	0.74857246	0.208624473
28	5	5	0.74795235	0.208864067
362	16	16	0.74682827	0.209343158
43	15	15	0.74502571	0.210288118
11	4	4	0.74165717	0.212310924
50	10	10	0.73890326	0.214409234
108	30	30	0.73809019	0.215106918
61	7	7	0.73620117	0.216774869
32	6	6	0.73530131	0.21739749
41	3	3	0.73390123	0.218010449
203	28	28	0.73149487	0.219148225
47	11	11	0.7307272	0.219349322
41	8	8	0.72864815	0.2205
162	1	45	0.72807646	0.220511967
58	6	6	0.72315526	0.223634096
362	12	12	0.72104188	0.225034268
38	5	5	0.71999253	0.225456432
25	3	3	0.71916186	0.225798964
1692	30	36	0.71645946	0.228397516
68	16	16	0.71564479	0.228392968
32	7	7	0.71410371	0.229747934
15	6	6	0.71245214	0.230745098
25	4	4	0.71225466	0.230552577
45	13	13	0.71099431	0.230854789
51	4	4	0.70629476	0.233337449
17	8	8	0.70484774	0.234265159
49	13	13	0.70454306	0.234090349
56	17	17	0.70298768	0.235421538
32	8	9	0.70217304	0.235848361
14	3	3	0.70150388	0.236356192
39	6	6	0.70097613	0.236274029
249	13	13	0.70080958	0.236032686
20	2	2	0.70028538	0.236191837
40	7	7	0.69808915	0.237916412
26	6	6	0.69773897	0.237849287

57	8	8	0.69483964	0.240101729
95	16	16	0.6942873	0.240455285
79	2	9	0.69337794	0.240548223
25	13	13	0.69333915	0.24030426
83	10	10	0.69268537	0.240968592
9	2	2	0.69066588	0.242295547
408	22	34	0.69004038	0.24277452
46	1	8	0.68941875	0.242824242
25	9	9	0.68904506	0.243047427
16	7	7	0.68858971	0.24321371
18	2	2	0.68769639	0.243323263
101	11	11	0.68534805	0.245066398
95	27	27	0.68516717	0.244920603
96	22	22	0.6850759	0.244722892
18	4	4	0.68398217	0.246014042
54	10	10	0.68135745	0.248096192
19	11	11	0.68131861	0.247847848
14	3	3	0.68121058	0.247864
26	13	13	0.67875	0.249702298
47	6	6	0.67804033	0.249912176
3	5	5	0.67630124	0.250472582
227	34	34	0.67609228	0.2502749
20	3	3	0.67580506	0.250288557
42	15	15	0.67555689	0.250254473
22	10	10	0.6751524	0.250649454
271	41	41	0.67501807	0.250563492
223	29	29	0.67497926	0.250414272
115	16	16	0.67432411	0.250732673
27	6	6	0.67374135	0.250995054
113	2	4	0.67318432	0.251197628
340	47	47	0.67171364	0.252205331
88	10	10	0.67079207	0.252717949
76	16	16	0.67025255	0.252610837
26	7	7	0.66978531	0.252637795
13	6	6	0.66968881	0.252825959
54	4	4	0.66930893	0.252817289
12	4	4	0.66901352	0.252628067
19	6	6	0.66777215	0.252521569
16	5	5	0.66444014	0.254950049
63	3	3	0.66424307	0.254908023
6	2	2	0.66318214	0.255816227

53	0	10	0.66247176	0.256347656
138	5	5	0.66086463	0.257428293
14	2	2	0.6608344	0.257231969
88	9	9	0.66004733	0.257803311
164	19	19	0.65914076	0.257821012
107	17	17	0.65849774	0.258456754
22	4	4	0.65799649	0.258640777
127	15	15	0.6578431	0.258510184
41	7	7	0.65589232	0.259565891
14	3	3	0.65455666	0.260453049
39	5	9	0.65129724	0.262324952
66	9	9	0.65053743	0.262933333
898	34	42	0.65024343	0.262830116
125	20	20	0.6501974	0.262865959
24	4	4	0.64983352	0.263152216
57	9	9	0.64945373	0.263545717
21	7	7	0.64934214	0.263388462
131	17	17	0.64805217	0.264226705
24	9	9	0.64804223	0.263973129
22	2	2	0.64735356	0.264245446
30	3	3	0.64521731	0.265444444
44	19	19	0.6435932	0.266097608
16	2	2	0.64260393	0.266390057
10	4	4	0.63897699	0.268913085
35	11	11	0.63741493	0.270408397
28	9	9	0.63711858	0.270215443
73	13	13	0.63525086	0.272125714
8	4	4	0.63518454	0.271920076
24	9	9	0.63426852	0.272281369
40	7	7	0.63314037	0.272854701
17	8	8	0.63295103	0.272679317
44	1	8	0.63290825	0.272420853
77	6	6	0.62965791	0.274727273
33	2	2	0.6295698	0.27446736
183	22	22	0.62769532	0.275761815
23	5	5	0.62673185	0.2761322
17	2	2	0.6266844	0.275932075
660	11	12	0.62508026	0.276727615
40	3	3	0.62507989	0.276467043
654	29	29	0.62502121	0.276206961
19	4	4	0.62476045	0.276184211

38	10	10	0.62214083	0.278276056
31	6	6	0.62169653	0.278566604
82	22	22	0.6216443	0.278474227
94	6	6	0.62122948	0.278359551
77	7	7	0.62076961	0.27845463
16	5	5	0.62044141	0.278429907
10	4	4	0.61625817	0.281337068
221	24	24	0.61564021	0.281447761
27	9	9	0.61541274	0.281409133
340	20	20	0.61436696	0.282640596
40	9	9	0.61282591	0.284368372
37	5	5	0.60807957	0.287936803
54	7	7	0.60601541	0.289340761
35	9	9	0.60278328	0.292011132
42	8	8	0.60249368	0.29212975
76	7	7	0.60240276	0.291859259
51	9	9	0.60190644	0.291848289
54	15	15	0.60172209	0.291630314
57	21	21	0.60061477	0.292073869
21	5	5	0.59978749	0.292675277
20	9	9	0.59967647	0.292556682
115	20	20	0.59960198	0.292331492
41	11	11	0.59817878	0.293678013
75	9	9	0.59796611	0.293463235
33	8	8	0.59720699	0.29369697
304	14	14	0.59661701	0.293669725
53	9	9	0.59631886	0.293638863
16	5	5	0.59595743	0.293941392
24	9	9	0.59588319	0.293720037
134	20	20	0.59559425	0.293718464
58	14	14	0.59556935	0.293450228
45	7	7	0.5940773	0.294346715
35	7	7	0.59391203	0.294125798
298	14	14	0.59138865	0.295883424
22	4	5	0.59105225	0.295847134
51	5	5	0.58885213	0.297530909
60	12	12	0.58863136	0.297373297
104	24	24	0.58532355	0.299451906
91	16	16	0.58346772	0.300551224
33	3	3	0.58336424	0.300394928
14	5	5	0.58231479	0.301046154

238	10	10	0.58130264	0.301479204
27	9	9	0.58068529	0.301943993
107	12	12	0.58052882	0.301732852
340	24	24	0.58023674	0.30174211
24	3	3	0.57899854	0.302302703
30	10	10	0.57818023	0.302930693
137	46	46	0.5765076	0.303827338
25	2	2	0.57580668	0.304233603
87	11	11	0.57534964	0.30432675
76	8	8	0.57493575	0.304527354
569	17	17	0.57439348	0.304874552
29	11	11	0.57425503	0.304601611
36	8	8	0.57419017	0.304329159
104	19	19	0.56814508	0.30908311
416	22	22	0.56422527	0.3121
32	7	7	0.56147842	0.314319358
36	10	10	0.56104053	0.314228164
218	24	24	0.55882919	0.315775601
25	5	5	0.5538932	0.319640569
42	8	8	0.55374702	0.319416889
44	5	5	0.55278811	0.319975133
45	12	12	0.55262238	0.319779947
55	6	6	0.5522446	0.319904255
79	22	22	0.55032509	0.321441984
8	8	8	0.55004313	0.321309735
130	10	10	0.54930535	0.321612732
16	9	9	0.5487717	0.321621908
59	2	2	0.5485182	0.321500441
64	14	14	0.54566065	0.32378836
78	10	12	0.54451521	0.3241163
180	27	27	0.54440426	0.323830986
49	12	12	0.54374538	0.324133685
27	3	3	0.54336534	0.324249561
20	7	7	0.54228251	0.325158911
34	11	11	0.53851455	0.328852632
48	13	13	0.53728323	0.329468887
29	7	7	0.53693552	0.329607706
19	2	2	0.53687806	0.329378828
63	15	15	0.53575926	0.329986014
51	7	7	0.53516203	0.330351092
29	6	6	0.53374601	0.331197208

115	22	22	0.53198783	0.332938099
19	5	5	0.53078141	0.333515679
591	35	35	0.529842	0.334677111
28	7	7	0.52973406	0.334535652
19	10	10	0.52903806	0.334762815
72	22	22	0.52855346	0.334895833
8	4	4	0.52847915	0.334605377
60	5	5	0.52795324	0.334838821
351	2	34	0.5259528	0.3364329
172	12	12	0.52560702	0.336553633
69	22	22	0.52554242	0.336307692
14	10	10	0.52448391	0.336739206
211	25	26	0.5224268	0.338333046
14	2	2	0.519237	0.341348276
25	3	3	0.51586186	0.344248062
47	5	5	0.51542649	0.344399312
71	4	4	0.51390784	0.346042992
111	7	7	0.51253063	0.34719244
81	2	5	0.51241181	0.347086695
70	18	18	0.50747271	0.351564322
60	3	3	0.50714327	0.351770351
43	9	9	0.50597552	0.352681507
104	2	12	0.50595268	0.352379812
55	6	6	0.50522639	0.352776068
130	8	8	0.5048366	0.352884714
22	4	4	0.50455644	0.352788396
119	7	7	0.50371693	0.35314237
17	2	2	0.50363356	0.352841567
20	4	4	0.50340134	0.353198298
66	13	13	0.50243787	0.353833333
76	15	15	0.50090125	0.355320306
66	14	14	0.50075995	0.355188455
154	28	28	0.50052111	0.355073791
154	10	10	0.50043912	0.354810169
93	1	11	0.49923227	0.35626757
70	15	15	0.49906596	0.356159052
182	13	13	0.49872247	0.356145393
28	10	10	0.49833393	0.356432432
127	11	11	0.49802941	0.356472574
60	12	12	0.49801665	0.356172007
180	17	17	0.49799058	0.355966302

57	5	5	0.49772568	0.355791246
113	11	11	0.49693473	0.356497897
47	4	4	0.49662104	0.35652437
130	18	18	0.49595936	0.356950462
209	48	48	0.49402252	0.358654362
29	9	9	0.49211634	0.360868399
65	1	3	0.49085287	0.361758794
52	6	6	0.49035471	0.362015063
49	4	4	0.48783714	0.36461204
123	16	16	0.48694521	0.364818713
63	8	8	0.48585914	0.365752922
15	1	1	0.48552962	0.365694746
24	6	6	0.48481896	0.36588
32	9	9	0.48402349	0.366154871
633	23	23	0.48377413	0.366106489
25	4	4	0.48331956	0.366124688
20	3	3	0.48328941	0.365820598
39	13	13	0.48257555	0.366592531
42	18	18	0.48100262	0.368242123
56	12	12	0.48088253	0.368062966
71	13	13	0.47954195	0.369440397
79	6	16	0.47800692	0.371669148
470	6	43	0.47701673	0.372528926
155	17	17	0.47609867	0.373446738
21	6	6	0.47365002	0.376115512
78	19	19	0.47325685	0.376323166
93	11	11	0.47323316	0.376052718
67	3	10	0.47124481	0.377590123
126	46	48	0.47048096	0.3776875
138	32	32	0.46926717	0.37927691
169	13	13	0.46784373	0.380804598
49	11	11	0.46776172	0.38057096
33	5	5	0.4676939	0.380327869
129	17	17	0.46659391	0.381336609
15	4	4	0.45902029	0.390202946
51	5	5	0.45511082	0.394122649
20	3	3	0.45306503	0.395781046
47	15	15	0.45226883	0.396336327
30	3	3	0.45146359	0.396936378
17	3	3	0.45137554	0.396857376
101	6	6	0.45108357	0.396785016

61	3	3	0.45005026	0.397744508
204	26	26	0.450049	0.397421138
28	9	9	0.44810834	0.399561332
27	9	9	0.44723129	0.400087662
33	4	4	0.44646603	0.40048013
24	3	3	0.44548341	0.401435981
7	4	4	0.44514525	0.4016
19	3	3	0.44283916	0.403488673
26	6	6	0.44208531	0.404061439
198	34	34	0.44189286	0.404006462
39	10	10	0.44150287	0.40391929
49	7	7	0.44118296	0.40396129
44	13	13	0.44020977	0.404867043
117	6	6	0.43988069	0.404933977
278	33	33	0.4396451	0.404965406
31	4	4	0.43957927	0.404733119
29	8	8	0.43924912	0.404832129
49	11	11	0.4385524	0.405232745
28	4	4	0.43682904	0.407717723
56	5	5	0.43500555	0.40961859
183	7	9	0.43437693	0.409908727
31	3	3	0.43433101	0.4095808
62	16	16	0.43181473	0.412022382
37	4	4	0.43120739	0.412587859
7	4	4	0.4309813	0.412558659
36	9	9	0.43086685	0.412354067
32	7	7	0.4306964	0.412149801
97	14	14	0.43019385	0.412894904
65	11	11	0.42949166	0.413285601
274	16	16	0.42819237	0.414496025
109	29	29	0.4278886	0.414662431
93	8	8	0.42709451	0.41527619
55	15	15	0.42665271	0.41539096
108	40	41	0.42527432	0.416827258
55	15	15	0.4237962	0.418286619
13	5	5	0.42317022	0.418693038
28	4	4	0.4216358	0.419971542
78	15	15	0.41983768	0.421519747
438	60	60	0.41911546	0.422260458
21	1	1	0.41715226	0.424255521
156	16	16	0.41663994	0.424583136

131	15	15	0.41318151	0.428258268
76	2	16	0.41284473	0.428270653
50	8	9	0.41127386	0.429896226
655	18	18	0.41119644	0.42961194
50	7	7	0.40987542	0.430819466
93	20	20	0.40860331	0.432523922
38	5	5	0.40846314	0.432420063
12	2	2	0.40727602	0.433776038
54	9	9	0.40399551	0.4377277
64	12	12	0.40362692	0.437726349
270	18	18	0.40168791	0.43996875
144	12	12	0.40112931	0.440153005
10	4	4	0.40069716	0.440683307
29	4	4	0.3995222	0.442369447
110	44	44	0.39874876	0.442850467
209	33	33	0.39854143	0.442714397
119	25	26	0.39715222	0.444164852
24	4	4	0.39638659	0.445224553
73	8	8	0.39502569	0.446267081
20	8	8	0.39478068	0.446305663
33	6	6	0.39414623	0.446744186
995	1	12	0.39236295	0.448975988
45	3	3	0.39163626	0.449786378
49	12	12	0.39035805	0.451124517
313	26	26	0.39028912	0.450775889
120	14	14	0.38956848	0.451453282
45	14	14	0.38907355	0.45167284
334	50	50	0.38893132	0.451648419
12	4	4	0.38873131	0.451516179
1362	0	85	0.38708271	0.453191686
44	6	6	0.38684021	0.453243077
76	9	9	0.38677301	0.452931591
37	17	17	0.38623836	0.453173579
40	5	5	0.38527025	0.453995395
218	45	45	0.38522797	0.453788344
217	8	8	0.38317346	0.456389272
104	6	6	0.38315181	0.456079632
27	7	7	0.3823215	0.457374139
118	16	16	0.3800005	0.459697248
58	15	15	0.37931696	0.459926662
855	12	44	0.37914705	0.459948092

38	5	5	0.37763211	0.461388253
24	6	6	0.37632158	0.463036585
18	7	7	0.37513308	0.464664128
32	6	6	0.37495697	0.464666667
30	9	9	0.37430605	0.465332319
63	13	13	0.3731267	0.466620061
42	13	13	0.37277964	0.466794229
23	9	9	0.37236631	0.467180577
245	30	30	0.37164627	0.467769522
22	5	5	0.37026117	0.469809091
37	9	9	0.37001835	0.469689629
16	5	5	0.36960323	0.46980938
25	8	8	0.36722819	0.472677249
8	3	3	0.36615091	0.47405136
57	2	2	0.36569398	0.474246038
20	9	9	0.3655509	0.473888386
10	5	5	0.36465035	0.474981161
21	6	6	0.3645395	0.474710843
320	19	19	0.36438677	0.47448307
258	7	7	0.3633418	0.475768421
318	14	14	0.36326776	0.475450038
15	7	7	0.36319236	0.47521021
36	15	15	0.36261485	0.475807952
46	8	8	0.36247124	0.475754123
233	14	14	0.36217447	0.475649438
80	15	15	0.36134616	0.476874251
13	3	3	0.36118606	0.477014211
16	3	3	0.3609224	0.477390135
36	4	4	0.35894793	0.479931292
59	14	14	0.35877221	0.479722388
15	7	7	0.3576945	0.480975391
34	5	5	0.35641432	0.482628912
151	23	23	0.35475551	0.485024572
21	6	6	0.35299877	0.487014881
516	36	36	0.35163889	0.488993309
27	6	6	0.35067845	0.489943536
15	8	8	0.35046404	0.489992576
14	5	5	0.35038239	0.48972997
19	10	10	0.34914282	0.490588584
157	14	14	0.34900402	0.490512593
89	15	15	0.34747909	0.492381939

260	26	26	0.3470277	0.492621302
85	8	8	0.34489238	0.495869919
44	10	10	0.34185947	0.499202363
284	15	15	0.34139993	0.499385978
36	6	6	0.34038276	0.500563422
131	16	16	0.33872155	0.502962417
77	9	9	0.33831539	0.503378498
259	14	14	0.33703812	0.50532156
54	2	2	0.33677118	0.505320588
17	3	3	0.33568263	0.506459956
61	7	7	0.33474331	0.507480176
547	1	52	0.33375939	0.508900954
96	7	7	0.33282222	0.510381232
288	10	10	0.32926072	0.516202198
112	9	10	0.32914821	0.516029283
149	6	6	0.32838798	0.516994879
73	6	6	0.32838551	0.516616959
19	4	4	0.32727692	0.518939372
103	20	20	0.32638038	0.520084672
322	2	8	0.32609624	0.519935813
45	8	8	0.32368741	0.523425656
1729	3	78	0.32345297	0.523236708
22	8	8	0.32286136	0.52371179
101	12	12	0.32206019	0.525102545
21	7	7	0.32104256	0.527034884
67	6	6	0.3209315	0.527061728
13728	0	281	0.32062641	0.527166909
23	6	6	0.31982834	0.52857723
67	8	10	0.3189961	0.52935942
1330	7	45	0.31884618	0.529022448
34	11	11	0.31859695	0.5292822
48	6	6	0.317306	0.531421547
63	5	6	0.31713577	0.531297688
64	19	19	0.31691803	0.531358845
97	16	16	0.31664137	0.531414141
28	6	6	0.31621347	0.531599135
16	2	2	0.31613559	0.531426513
40	11	11	0.31465876	0.533583873
34	5	5	0.31349428	0.535910791
35	12	12	0.31322126	0.535873472
298	13	13	0.31283572	0.536554598

56	10	10	0.31251154	0.537019383
33	3	3	0.31235834	0.536832138
42	7	7	0.31097427	0.539099642
26	8	8	0.30978511	0.540896848
14	4	4	0.30951913	0.540798855
76	7	7	0.30921866	0.541021459
68	4	4	0.3079824	0.542959257
49	8	8	0.30783101	0.542888571
100	11	11	0.30754715	0.542952177
40	8	8	0.30739827	0.542721826
98	12	12	0.30725757	0.542411974
35	6	6	0.30668875	0.543646724
25	3	3	0.30668833	0.543259786
36	7	7	0.30608646	0.544096728
28	9	9	0.30587893	0.543977257
637	16	16	0.30568161	0.5440625
135	17	17	0.30395852	0.547290277
25	5	5	0.3037174	0.547668085
91	1	38	0.30209922	0.550542877
135	9	9	0.30171778	0.550691218
311	22	22	0.30161067	0.550406228
225	0	2	0.30011095	0.552659123
734	1	88	0.29911473	0.554340636
18	4	4	0.29879254	0.554180791
118	8	8	0.29810412	0.555268878
118	20	20	0.29794437	0.55506347
24	8	8	0.29787654	0.555007752
31	6	6	0.29770934	0.554949296
47	12	12	0.29764986	0.554657284
75	1	17	0.29697478	0.556022504
29	3	3	0.29507556	0.558411806
114	13	13	0.29407775	0.559966292
16	4	4	0.29404221	0.559604211
17	4	4	0.29402625	0.559211781
64	12	12	0.29199364	0.562999299
9	2	2	0.29193305	0.562691877
222	9	9	0.29054537	0.565178446
70	10	10	0.29027986	0.56500979
18	3	3	0.29004831	0.564897275
119	15	16	0.28796066	0.567935754
6	4	4	0.2867249	0.569881368

39	8	8	0.2866203	0.56967364
24	4	4	0.28385116	0.575325436
67	14	14	0.28287357	0.577139276
170	35	35	0.28059259	0.582201809
115	18	18	0.27951212	0.583326843
111	23	23	0.27943156	0.58342738
41	2	2	0.27887702	0.584083333
38	9	9	0.27707064	0.58729771
223	26	26	0.27686738	0.587170596
12	4	4	0.27611158	0.588546085
13	5	5	0.27559846	0.58898338
1046	40	40	0.2747206	0.590593772
57	12	12	0.27395561	0.591789765
198	22	27	0.27376818	0.591842433
11	4	4	0.27218792	0.594975138
77	5	5	0.27214741	0.594564527
26	7	7	0.27135467	0.5956
38	12	12	0.27116675	0.595740868
5690	8	36	0.27109607	0.595363636
271	27	27	0.26810229	0.600897454
27	3	3	0.26731246	0.603037139
191	15	15	0.26644889	0.604371134
117	16	16	0.26556977	0.605692308
80	5	5	0.26539899	0.605811942
154	40	40	0.26461967	0.606737997
64	10	10	0.26358537	0.608553804
73	17	18	0.26349911	0.608167123
30	5	5	0.2633216	0.608043806
130	15	15	0.26289668	0.608290014
17	3	3	0.26224524	0.609509228
384	18	21	0.26195613	0.609521858
16	3	3	0.26151789	0.609944027
659	0	34	0.26046137	0.611904502
35	8	8	0.26000841	0.612433538
167	17	17	0.25909958	0.614550409
109	14	14	0.25907303	0.614164738
50	8	8	0.25889481	0.613885714
20	8	9	0.25867532	0.613816451
40	6	8	0.25850134	0.613934783
68	11	11	0.25843388	0.613645621
67	13	13	0.2582873	0.613329715

401	2	2	0.2578453	0.614012203
41	14	14	0.25655732	0.615842818
9	7	7	0.25576708	0.617291808
83	18	18	0.25538238	0.617705007
21	0	2	0.25368639	0.621782285
109	19	19	0.25276376	0.622972973
353	8	10	0.25272772	0.622627954
10	3	3	0.2521807	0.623481781
40	10	10	0.25162326	0.624223871
145	15	15	0.25155518	0.623838275
86	22	22	0.24936102	0.628514478
48	10	10	0.24883863	0.629152086
111	13	13	0.24753763	0.631257566
41	5	5	0.24713661	0.631413978
23	2	2	0.24704922	0.631110813
22	4	4	0.24700296	0.630719463
105	23	23	0.24642104	0.631930248
89	30	30	0.24380821	0.636378016
78	18	18	0.24266009	0.638705961
474	17	17	0.24155229	0.639914324
105	37	37	0.24065023	0.641487625
115	18	18	0.23912588	0.644160428
33	7	7	0.23899096	0.644
64	21	21	0.23837143	0.644734312
89	16	16	0.23824564	0.644677785
25	6	6	0.23711639	0.646949333
57	10	10	0.23696328	0.646635576
14	5	5	0.23597846	0.647888149
112	18	18	0.23517525	0.649170991
42	2	2	0.23515179	0.648739362
119	25	25	0.23455046	0.649501661
21	6	6	0.23147005	0.655657371
81	9	9	0.22947034	0.65876576
118	10	10	0.2292154	0.658644562
74	6	6	0.22921461	0.658208085
230	23	25	0.22885617	0.658712583
23	0	6	0.22798915	0.659608206
68	2	2	0.22645233	0.662171958
41	12	12	0.225555	0.663680106
218	16	16	0.22501799	0.663706737
110	10	10	0.22470624	0.663981518

25	5	5	0.22337694	0.666063325
223	1	19	0.22321214	0.665927488
19	4	4	0.22286436	0.666065876
99	20	20	0.22267415	0.665827518
89	25	25	0.22253681	0.665497368
41	8	8	0.22182926	0.666251151
47	9	9	0.22173658	0.66590276
125	2	8	0.22144398	0.666064347
15	4	4	0.22094212	0.666265092
16	4	4	0.22038594	0.667260328
67	16	16	0.22001378	0.66787156
141	7	7	0.21713423	0.672827767
67	15	15	0.21708398	0.672494764
83	5	5	0.21674056	0.672800523
14	2	2	0.2166766	0.672397386
9	5	5	0.21648712	0.67242064
368	16	16	0.21598014	0.673062663
27	6	6	0.21573099	0.673422048
24	12	12	0.21493362	0.674597132
58	12	12	0.21415108	0.67610684
108	19	19	0.21313049	0.677864583
90	10	10	0.21232219	0.679122967
41	10	10	0.21216835	0.679037711
219	82	82	0.21121178	0.680384665
160	24	24	0.20957924	0.683132468
28	2	2	0.20869162	0.684477612
172	35	35	0.20738539	0.686204929
64	16	18	0.20683173	0.686405703
140	23	23	0.20643253	0.686569948
635	10	27	0.2062377	0.686539806
94	31	31	0.20613397	0.686385511
26	7	7	0.20417213	0.688819651
253	11	21	0.20379208	0.688901809
109	14	14	0.20272779	0.690163977
291	18	18	0.20199486	0.691654194
122	4	21	0.20138878	0.692314636
125	18	18	0.20096219	0.692219072
1126	23	23	0.20058155	0.692285898
103	4	4	0.2002678	0.692396396
21	7	7	0.19875843	0.694626367
72	4	4	0.19856559	0.69433162

97	9	9	0.19773363	0.695062299
4	2	2	0.19762431	0.694762516
10	6	6	0.19651216	0.696
110	8	8	0.19643736	0.695661538
77	20	20	0.19508837	0.69744779
404	22	22	0.19401274	0.699595391
361	21	21	0.19280108	0.700724248
93	7	7	0.19264406	0.700585678
58	16	16	0.19194582	0.701183387
212	42	42	0.18942901	0.705295019
152	6	26	0.18933594	0.705000638
92	6	6	0.18895504	0.705104592
19	7	7	0.18744719	0.707673678
140	18	18	0.18629998	0.708756688
10	4	4	0.18623105	0.708432845
50	13	13	0.18553654	0.709145038
78	7	7	0.18527528	0.709294342
86	1	7	0.18483892	0.710030496
187	9	9	0.1837802	0.71168
85	6	6	0.1829882	0.712982234
123	15	15	0.1823105	0.713699429
385	33	33	0.18215671	0.713533587
380	23	23	0.18163349	0.713552882
255	12	12	0.18059044	0.715182278
79	13	13	0.17822827	0.719962049
42	4	4	0.17726239	0.720955752
30	3	3	0.1770873	0.721094125
89	1	20	0.17684737	0.721138889
216	35	35	0.17544924	0.722940063
88	15	16	0.17430181	0.724686003
1641	10	10	0.17357986	0.725111531
102	10	10	0.17345207	0.72484131
22	6	6	0.17297738	0.725097546
12	3	3	0.17185378	0.726498113
21	8	8	0.17180192	0.726119422
44	12	12	0.17059797	0.727741206
6	3	3	0.17056653	0.727284369
89	7	7	0.1700874	0.727646173
111	15	15	0.16945393	0.72822069
267	21	21	0.16926327	0.72802005
143	15	15	0.16366102	0.73756293

472	12	44	0.16179536	0.739554443
88	4	4	0.16157846	0.739609756
137	7	10	0.1597582	0.742355
72	7	7	0.1582058	0.74443223
96	11	11	0.15785427	0.74459176
164	8	8	0.15473543	0.750562695
157	22	22	0.15408907	0.751094763
3273	58	58	0.15406845	0.750654206
4	2	2	0.15352736	0.751088418
41	9	9	0.15349548	0.750663348
39	5	5	0.15315727	0.750746269
34	1	8	0.15149744	0.753635799
60	7	7	0.1514106	0.753426087
51	10	10	0.15102027	0.753663563
32	4	4	0.15034295	0.754320099
1152	53	53	0.15012524	0.754209547
137	9	9	0.14932569	0.755125155
58	9	9	0.14893657	0.75534613
160	1	24	0.14695608	0.758970297
275	29	29	0.14674419	0.758985776
208	23	23	0.14664085	0.758684796
42	6	6	0.14618682	0.758843731
196	1	16	0.14544037	0.759824691
99	12	12	0.14527381	0.759770512
13	5	6	0.14406538	0.76182984
31	2	2	0.14374646	0.761875539
50	15	15	0.14104782	0.766374384
68	12	13	0.14004446	0.767458462
263	46	46	0.13939183	0.7680492
44	7	7	0.13886654	0.768472034
57	17	17	0.13652246	0.772309582
187	23	23	0.13517199	0.774241866
35	4	4	0.13462437	0.774728834
32	4	4	0.13407788	0.775060699
226	33	33	0.13393636	0.774909314
42	6	6	0.13364903	0.775091243
68	8	8	0.13317262	0.77523623
17	11	11	0.13295307	0.775354128
23	7	7	0.13265176	0.775535452
55	11	11	0.13199293	0.7760562
57	15	15	0.13157928	0.776175824

47	7	7	0.13127772	0.77619036
80	10	10	0.13092232	0.776397561
167	14	21	0.12986859	0.777828154
37	4	4	0.12978219	0.777615104
51	3	3	0.12826233	0.780073037
103	2	15	0.12804995	0.779839416
36	12	12	0.12714058	0.781400608
15	6	6	0.12689159	0.781321993
150	25	25	0.12620585	0.781874924
84	9	9	0.12605853	0.781652913
105	23	23	0.12525129	0.78255185
369	25	25	0.1250173	0.78249697
138	28	28	0.12488944	0.782136887
156	26	26	0.12381749	0.783736077
55	11	11	0.12379767	0.783288566
74	2	11	0.12346022	0.783932285
72	6	6	0.12345384	0.783497281
33	5	5	0.12275452	0.784371981
100	11	11	0.12051032	0.788304164
146	16	16	0.12043649	0.787891435
171	12	12	0.11987845	0.78822182
46	1	1	0.11959207	0.78826747
169	49	49	0.11802312	0.79051174
230	47	47	0.11740387	0.791309266
79	5	5	0.11665623	0.792137102
113	15	15	0.11659385	0.791752404
37	10	10	0.11635606	0.791795796
160	13	13	0.11591254	0.792182473
196	3	14	0.11571979	0.792472705
203	23	23	0.1152541	0.792940048
10	3	3	0.11466795	0.793644098
221	1	20	0.11319458	0.79617485
59	6	6	0.11155577	0.799104728
24	10	10	0.11114452	0.79957177
59	13	13	0.11035851	0.800734011
62	10	10	0.10966702	0.801622461
808	44	44	0.1088013	0.802813134
95	11	11	0.10789716	0.804047733
36	10	10	0.10778632	0.803787716
50	2	9	0.10746399	0.804085816
351	25	25	0.10730147	0.804007147

979	50	53	0.10634812	0.804990476
172	5	5	0.10616898	0.804889946
32	14	14	0.10613402	0.804523187
46	3	3	0.10545523	0.805513963
71	3	3	0.10527268	0.805306413
109	25	25	0.10256809	0.810378635
308	16	16	0.10237193	0.810550415
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49	17	17	0.099021	0.815808057
130	20	20	0.09851079	0.81651865
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23	11	11	0.09803241	0.816113475
383	29	29	0.09724812	0.817086828
132	7	7	0.09564223	0.820410862
122	8	8	0.09482817	0.821569322
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138	11	11	0.09195561	0.826127208
31	7	7	0.09053727	0.82826133
138	20	20	0.09025153	0.828235294
124	13	13	0.09000182	0.828162257
153	0	21	0.08982526	0.828098707
120	8	8	0.0896538	0.827950675
34	8	8	0.08719571	0.832326291
83	27	27	0.08580859	0.834639296
45	12	12	0.08565308	0.83455803
154	14	14	0.08544554	0.834479203
109	8	10	0.08503475	0.834737705
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23	5	5	0.08302503	0.837883041
22	6	6	0.08227085	0.838976037
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382	30	30	0.0815835	0.839280794
157	9	9	0.08128696	0.8393979
112	12	12	0.08103758	0.839596501
45	15	15	0.08058303	0.840130536
177	14	14	0.08020552	0.840153757
13	3	3	0.07807418	0.843979045
81	12	12	0.07605583	0.847958115
41	7	7	0.07503986	0.849730233

87	3	3	0.07486593	0.849589773
229	24	24	0.07485035	0.8490964
170	11	11	0.07458967	0.849239698
104	16	16	0.07408483	0.849800464
477	1	26	0.07261374	0.852653913
228	7	7	0.07130687	0.854920046
10	3	3	0.07128817	0.854526925
52	28	28	0.07106249	0.85475463
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127	28	28	0.07049146	0.854975723
155	7	7	0.06771937	0.861012132
35	9	9	0.06549462	0.866023095
156	13	13	0.06504752	0.866435084
42	7	7	0.06474079	0.866620531
32	3	3	0.06433708	0.866914121
111	30	30	0.06396004	0.867306452
47	3	3	0.06319989	0.868315486
24	5	5	0.06260636	0.869578826
75	18	18	0.06224883	0.869674526
111	16	16	0.06194349	0.869668966
297	36	36	0.06181479	0.869656519
304	1	21	0.06148162	0.869924225
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281	32	32	0.05596148	0.879419097
132	15	15	0.05538439	0.880306286
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15	6	6	0.05440653	0.881681689
24	1	1	0.05271489	0.885427594
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108	10	10	0.04930587	0.892739898
51	8	8	0.04787863	0.895453925
137	9	24	0.04774835	0.895495168
20	5	5	0.04467949	0.902413636
77	16	16	0.04398601	0.904327087

26	15	15	0.04385833	0.904186152
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7	3	3	0.04168113	0.90930085
92	6	6	0.04156714	0.908967157
180	28	28	0.04125211	0.909192982
315	49	49	0.04104135	0.909321267
84	6	6	0.04072013	0.909729791
35	13	13	0.04047119	0.909977401
45	12	12	0.03960683	0.912085827
55	9	9	0.03960247	0.911571106
49	13	13	0.03927695	0.912076706
68	12	12	0.0392273	0.911916573
17	2	2	0.03890756	0.912831549
41	6	12	0.03885433	0.912493243
36	6	6	0.03817336	0.914021384
135	8	8	0.03807887	0.913790776
57	12	16	0.03800465	0.913407532
15	5	5	0.03768272	0.913626966
21	4	4	0.03583903	0.918966873
20	3	3	0.03454742	0.922749719
168	9	9	0.03394067	0.924343242
66	9	9	0.03218022	0.929338565
441	42	42	0.03162327	0.930635294
1336	2	130	0.03135239	0.930759239
13	4	4	0.03125693	0.930321209
20	8	8	0.03091673	0.930923937
72	7	7	0.03068358	0.931242035
19	9	9	0.03055105	0.931278212
114	12	12	0.03001827	0.932737018
81	9	9	0.02968953	0.932886161
105	11	11	0.02882871	0.934585611
136	11	11	0.02880856	0.934102564
114	16	16	0.02880092	0.933582173
148	31	31	0.02878365	0.933089087
16	5	5	0.02828948	0.934127991
21	2	2	0.02778378	0.935470523
22	10	10	0.02755756	0.935437465
32	10	10	0.02728226	0.935666667
135	6	6	0.02708063	0.935509162
46	9	9	0.02695478	0.935436182

52	10	10	0.02647245	0.936603439
1532	36	36	0.02612089	0.937323725
32	5	5	0.02604258	0.93708144
120	11	11	0.02536891	0.939227021
12	7	7	0.0245386	0.941467626
90	7	7	0.02313218	0.945482301
404	22	22	0.02306466	0.945125484
206	17	17	0.02267713	0.945754696
63	14	15	0.02150777	0.949391496
473	50	50	0.02122303	0.949461369
16	3	3	0.02119585	0.948959735
1632	149	149	0.02086202	0.949184123
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17	7	7	0.02027707	0.949508811
131	23	23	0.01903296	0.953281233
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281	4	30	0.01549966	0.963975824
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226	39	39	0.0154036	0.963418222
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39	7	7	0.01486001	0.963903509
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23	6	6	0.01381368	0.966329502
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33	4	4	0.01121742	0.973143481
23	7	7	0.00983281	0.977031625
166	15	15	0.00953586	0.977687193
37	21	21	0.00946423	0.977448802
132	14	14	0.00929811	0.977511159
128	21	21	0.0086825	0.978972797
164	12	12	0.00819982	0.979919521
15	2	2	0.0079701	0.980434783
56	12	12	0.00774702	0.98058012
29	5	6	0.0070646	0.982197611
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142	7	7	0.00591518	0.984991323
37	10	10	0.00569445	0.985229268
21	6	6	0.00563121	0.984782232
101	5	5	0.005298	0.985015701
728	6	22	0.00435923	0.988270563
87	11	11	0.00423451	0.988140617
10	3	3	0.00349671	0.989744865
23	11	11	0.00298272	0.990997299
184	13	13	0.00272762	0.991308855
1604	36	36	0.0025922	0.991160281
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Student's T-te	Student's T-t	Protein IDs	Majority prot	gene name	gene ID
N	N	T	T	T	T
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6.36594248	36.095423	FBpp0309824	FBpp0309824	CG9147-PD	FBgn0031774
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-3.4807024	-31.101698	FBpp0310053	FBpp0310053	CG13795-PC	FBgn0031937
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11.4769225	29.853907	FBpp0291133	FBpp0291133	up-PH	FBgn0004169
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-4.5896125	-28.623708	FBpp0082743	FBpp0082743	CSN5-PA	FBgn0027053
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-6.9542174	-26.752118	FBpp0310389	FBpp0310389	CG43402-PB	FBgn0263321
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-1.0228205	-3.5194192	FBpp0081601	FBpp0081601	rump-PA	FBgn0260010
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-1.7782474	-3.4707434	FBpp0309149	FBpp0309149	CG18624-PE	FBgn0029971
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-3.5080853	-3.410684	FBpp0075390	FBpp0075390	CG13458-PA	FBgn0036479
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0.63882256	3.3876722	FBpp0077674	FBpp0077674	Dbp21E2-PA	FBgn0086130
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-2.6219296	-2.7366952	FBpp0082120	FBpp0082120	CG6188-PA	FBgn0038074
-4.0126119	-2.7284872	FBpp0087320	FBpp0087320	Prosbeta5-PA	FBgn0029134
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-3.8422875	-2.7189886	FBpp0071256	FBpp0071256	c12.2-PA	FBgn0040234
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-0.33674	-2.7125125	FBpp0304265	FBpp0304265	RpLP1-PB	FBgn0002593
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-3.3574648	-2.6913658	FBpp0078893	FBpp0078893	CG9547-PA	FBgn0031824
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-0.7027669	-2.0244863	FBpp0311091	FBpp0311091	Fer1HCH-PJ	FBgn0015222
-0.1859322	-2.0239209	FBpp0083503	FBpp0083503	Rab1-PA	FBgn0016700
0.60547829	2.0170819	FBpp0070924	FBpp0070924	COQ7-PA	FBgn0029502
-2.5040751	-2.0117381	FBpp0071192	FBpp0071192	Hexo2-PA	FBgn0041629
-0.7965226	-2.0029833	FBpp0100180	FBpp0100180	mt:CoIII-PA	FBgn0013676
-2.6702375	-1.9996259	FBpp0306010	FBpp0306010	CG14103-PB	FBgn0036908
-0.8594303	-1.9995511	FBpp0307568	FBpp0307568	Karybeta3-PB	FBgn0087013
-0.2322903	-1.9984479	FBpp0078688	FBpp0078688	Scox-PA	FBgn0262467
0.59705019	1.9803377	FBpp0078385	FBpp0078385	CG31548-PA	FBgn0051548
-1.0427198	-1.975161	FBpp0087724	FBpp0087724	Sec31-PB	FBgn0033339
-0.3866725	-1.9732084	FBpp0307641	FBpp0307641	Rab2-PB	FBgn0014009
-1.210835	-1.9683904	FBpp0089088	FBpp0089088	Eb1-PE	FBgn0027066
0.18323755	1.9673975	FBpp0311460	FBpp0311460	RpL7A-PG	FBgn0014026
0.55106258	1.9669473	FBpp0071604	FBpp0071604	clt-PA	FBgn0000326
0.24515772	1.9661545	FBpp0311502	FBpp0311502	CG13026-PC	FBgn0036656
-1.0125051	-1.9614184	FBpp0080044	FBpp0080044	CG6523-PA	FBgn0032509
0.37055063	1.9599625	FBpp0081599	FBpp0081599	mRpL47-PB	FBgn0014023
-2.1740446	-1.9594701	FBpp0302811	FBpp0302811	CG5322-PB	FBgn0032253
-0.9310603	-1.9593936	FBpp0293516	FBpp0293516	Pep-PD	FBgn0004401
-0.4188347	-1.9588899	FBpp0085586	FBpp0085586	RpS18-PA	FBgn0010411
-2.4725947	-1.9579459	FBpp0085251	FBpp0085251	Lamp1-PA	FBgn0032949
1.0143342	1.9572423	FBpp0079915	FBpp0079915	Aats-thr-PC	FBgn0027081
0.81164694	1.956241	FBpp0289017	FBpp0289017	CG42319-PD	FBgn0259219

0.38518477	1.955985	FBpp0083845	FBpp0083845	Plip-PA	FBgn0039111
-2.4412971	-1.952846	FBpp0077206	FBpp0077206	Snx1-PA	FBgn0031534
0.27121449	1.9520028	FBpp0080495	FBpp0080495	VhaSFD-PB	FBgn0027779
0.47939444	1.9476155	FBpp0311256	FBpp0311256	CG13907-PB	FBgn0035173
0.23607206	1.9464457	FBpp0111875	FBpp0111875	CG1440-PC	FBgn0030038
0.20478296	1.933478	FBpp0079578	FBpp0079578	CG4972-PA	FBgn0032217
0.21454001	1.9302095	FBpp0083908	FBpp0083908	CG13601-PA	FBgn0039126
-3.3509421	-1.9258633	FBpp0075396	FBpp0075396	CG6878-PA	FBgn0036488
0.57179022	1.9202107	FBpp0306045	FBpp0306045	Tm1-PR	FBgn0003721
0.24513245	1.918742	FBpp0288389	FBpp0288389	eIF4G1-PC	FBgn0023213
0.88635635	1.9145825	FBpp0077910	FBpp0077910	CG4365-PB	FBgn0037024
-0.6101079	-1.913792	FBpp0309255	FBpp0309255	Spase25-PC	FBgn0030306
-0.3664351	-1.9060232	FBpp0311925	FBpp0311925	CtsB1-PC	FBgn0030521
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-0.9083695	-1.9046612	FBpp0078278	FBpp0078278	Rpn5-PA	FBgn0028690
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-0.4298997	-1.8976966	FBpp0308387	FBpp0308387	Cyp4e2-PB	FBgn0014469
-2.4353919	-1.8958048	FBpp0301105	FBpp0301105	CG6364-PE	FBgn0263398
0.44330406	1.8915767	FBpp0305108	FBpp0305108	CG12935-PB	FBgn0033547
-3.1551275	-1.891101	FBpp0310466	FBpp0310466	Plap-PC	FBgn0024314
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-3.6732326	-1.8874557	FBpp0099539	FBpp0099539	14-3-3zeta-PI	FBgn0004907
0.57779026	1.886534	FBpp0089270	FBpp0089270	Tm2-PC	FBgn0004117
0.53954315	1.8831777	FBpp0311799	FBpp0311799	Mipp1-PC	FBgn0026061
1.007617	1.8797455	FBpp0084737	FBpp0084737	CG11876-PB	FBgn0039635
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0.43082476	1.8533501	FBpp0073770	FBpp0073770	Flo2-PC	FBgn0264078

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2.72531748	1.8359221	FBpp0076522	FBpp0076522	CG7409-PA	FBgn0035817
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-2.2552924	-1.7951101	FBpp0293887	FBpp0293887	CG5941-PB	FBgn0029833
0.35769463	1.7888135	FBpp0290106	FBpp0290106	CG11148-PF	FBgn0039936
-2.506032	-1.7859223	FBpp0310407	FBpp0310407	CG9248-PC	FBgn0032923
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-0.5048194	-1.7621896	FBpp0070953	FBpp0070953	CG3226-PA	FBgn0029882
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-3.5750451	-1.7563909	FBpp0305168	FBpp0305168	Neb-cGP-PB	FBgn0083167
0.15446711	1.7561297	FBpp0086795	FBpp0086795	Roe1-PA	FBgn0014877
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0.23341465	1.7539099	FBpp0081374	FBpp0081374	bel-PA	FBgn0263231
0.28067017	1.7538802	FBpp0090953	FBpp0090953	CG33521-PD	FBgn0250819
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-2.1565943	-1.7421585	FBpp0072484	FBpp0072484	CG13890-PA	FBgn0035169
0.43490982	1.737617	FBpp0071943	FBpp0071943	CG13551-PB	FBgn0040660
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-0.3819027	-1.7166365	FBpp0072040	FBpp0072040	CG5597-PA	FBgn0034920
0.47962713	1.7134316	FBpp0074365	FBpp0074365	Aats-his-PA	FBgn0027087
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0.4468503	1.6891464	FBpp0310655	FBpp0310655	CG15881-PC	FBgn0036909
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0.60916281	1.6730045	FBpp0079637	FBpp0079637	CG5355-PA	FBgn0032242
-2.0478497	-1.6675739	FBpp0084609	FBpp0084609	CG12428-PE	FBgn0039543
0.3805294	1.6662041	FBpp0086747	FBpp0086747	shot-PH	FBgn0013733
0.40645456	1.6619116	FBpp0305721	FBpp0305721	vkg-PC	FBgn0016075
0.26802731	1.6599313	FBpp0309580	FBpp0309580	CG9090-PC	FBgn0034497
-0.3712821	-1.6573889	FBpp0311421	FBpp0311421	Dip-B-PD	FBgn0000454
-0.1904154	-1.6562791	FBpp0312113	FBpp0312113	CG8498-PB	FBgn0031992
-2.771225	-1.6543793	FBpp0088878	FBpp0088878	Sod3-PB	FBgn0033631
-0.7917004	-1.6509784	FBpp0307993	FBpp0307993	CG3678-PB	FBgn0038461
-0.2732749	-1.6493038	FBpp0087479	FBpp0087479	TER94-PA	FBgn0261014
0.38792324	1.6452731	FBpp0304593	FBpp0304593	Inx2-PD	FBgn0027108
0.28575707	1.6444709	FBpp0293894	FBpp0293894	CG43143-PE	FBgn0262617
0.26508474	1.6418626	FBpp0311759	FBpp0311759	CG2658-PC	FBgn0024992
0.25580025	1.6401836	FBpp0303662	FBpp0303662	LUBEL-PI	FBgn0031857
-3.0875349	-1.6399401	FBpp0081752	FBpp0081752	Rbp1-PA	FBgn0260944
-2.4199796	-1.6379539	FBpp0292877	FBpp0292877	Apoltp-PC	FBgn0032136

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-0.6786652	-1.6310129	FBpp0290505	FBpp0290505	gammaCOP-P	FBgn0028968
-1.7967	-1.6309045	FBpp0087272	FBpp0087272	dare-PA	FBgn0015582
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-0.6766772	-1.613367	FBpp0078689	FBpp0078689	Trip1-PA	FBgn0015834
0.32084036	1.6103361	FBpp0307167	FBpp0307167	CG3214-PC	FBgn0031436
0.38034773	1.6095568	FBpp0305738	FBpp0305738	CG13048-PB	FBgn0036593
0.27085781	1.6090875	FBpp0077885	FBpp0077885	mRpL15-PA	FBgn0036990
0.43723202	1.607179	FBpp0075958	FBpp0075958	Sod-PA	FBgn0003462
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0.18840456	1.6026882	FBpp0079979	FBpp0079979	CG6180-PA	FBgn0032453
0.21198082	1.6022368	FBpp0077995	FBpp0077995	CG7632-PA	FBgn0037071
-0.4986172	-1.5991122	FBpp0297875	FBpp0297875	Hrb27C-PH	FBgn0004838
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-2.1398673	-1.5924561	FBpp0292511	FBpp0292511	Uch-PB	FBgn0010288
-0.5399632	-1.5919031	FBpp0311613	FBpp0311613	CG2852-PD	FBgn0034753
0.27514744	1.5917113	FBpp0087192	FBpp0087192	Egm-PA	FBgn0086712
1.88062	1.5887854	FBpp0310686	FBpp0310686	att-ORFA-PE	FBgn0067783
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-0.7445173	-1.5801051	FBpp0312064	FBpp0312064	rin-PG	FBgn0015778
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-0.3104148	-1.5558923	FBpp0309275	FBpp0309275	CG4239-PD	FBgn0030745
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0.16283274	1.5407451	FBpp0311260	FBpp0311260	CG3107-PD	FBgn0033005
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-1.7817421	-1.5074042	FBpp0076470	FBpp0076470	CG8209-PA	FBgn0035830
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-2.3273678	-1.4626452	FBpp0311928	FBpp0311928	Chro-PE	FBgn0044324
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-2.9022503	-1.4601727	FBpp0074937	FBpp0074937	NUCB1-PA	FBgn0052190
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-2.3158803	-1.4497414	FBpp0310597	FBpp0310597	CG11200-PC	FBgn0034500
-3.2553697	-1.449224	FBpp0311792	FBpp0311792	Capr-PB	FBgn0042134
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-3.3840904	-1.4440618	FBpp0301006	FBpp0301006	CG43427-PG	FBgn0263346
-0.615705	-1.4431651	FBpp0082062	FBpp0082062	Prosalpha2-P	FBgn0086134
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-2.2408175	-1.4382584	FBpp0072908	FBpp0072908	CG17737-PA	FBgn0035423
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-0.2755151	-1.4327324	FBpp0297522	FBpp0297522	RpL28-PG	FBgn0035422
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-0.4054623	-1.4302456	FBpp0293629	FBpp0293629	Asph-PJ	FBgn0034075
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-1.9952879	-1.333974	FBpp0074426	FBpp0074426	CG7280-PA	FBgn0030966
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0.14225483	1.090941	FBpp0082927	FBpp0082927	Prx3-PA	FBgn0038519
-1.3563252	-1.0902426	FBpp0296988	FBpp0296988	CG9391-PC	FBgn0037063
-0.1038876	-1.0896952	FBpp0082803	FBpp0082803	CG10340-PA	FBgn0022344
-0.4136877	-1.0896722	FBpp0087562	FBpp0087562	CG1665-PA	FBgn0033451
0.30552769	1.0896254	FBpp0308495	FBpp0308495	CG1648-PC	FBgn0033446

-0.5170598	-1.0891491	FBpp0074294	FBpp0074294	wupA-PA	FBgn0004028
-0.2363095	-1.0877267	FBpp0300819	FBpp0300819	Mpcp-PC	FBgn0026409
0.16387892	1.0871625	FBpp0071594	FBpp0071594	Tim10-PB	FBgn0027360
-0.2530026	-1.0859721	FBpp0075104	FBpp0075104	Int6-PA	FBgn0025582
0.23051548	1.0824859	FBpp0078152	FBpp0078152	Aats-ile-PD	FBgn0027086
0.29475021	1.0790522	FBpp0307936	FBpp0307936	Fatp-PE	FBgn0021953
-0.3511453	-1.0767748	FBpp0294004	FBpp0294004	Cdlc2-PC	FBgn0026141
-0.3131018	-1.0758765	FBpp0073017	FBpp0073017	Sc2-PA	FBgn0035471
-0.3162303	-1.0713342	FBpp0302049	FBpp0302049	mRpS16-PC	FBgn0033907
-1.2906609	-1.0697238	FBpp0070875	FBpp0070875	Spat-PA	FBgn0014031
0.16827488	1.0677622	FBpp0081600	FBpp0081600	Ras85D-PA	FBgn0003205
0.4367547	1.0671668	FBpp0072127	FBpp0072127	SERCA-PF	FBgn0263006
-0.2551799	-1.0658825	FBpp0308566	FBpp0308566	metro-PD	FBgn0050021
-1.6905804	-1.0644446	FBpp0085858	FBpp0085858	GstE9-PA	FBgn0063491
0.19219971	1.0639937	FBpp0076134	FBpp0076134	ATPsyn-b-PA	FBgn0019644
1.29444456	1.0631717	FBpp0072385	FBpp0072385	NitFhit-PA	FBgn0024945
-0.2424321	-1.0631171	FBpp0289514	FBpp0289514	AQP-PB	FBgn0033807
0.34450293	1.0618259	FBpp0086373	FBpp0086373	Aats-cys-PA	FBgn0027091
0.15453482	1.0589794	FBpp0307249	FBpp0307249	Gp210-PB	FBgn0266580
-0.4367547	-1.058762	FBpp0305309	FBpp0305309	Cka-PG	FBgn0044323
-0.3030543	-1.0563344	FBpp0297132	FBpp0297132	Nap1-PC	FBgn0015268
-0.5511279	-1.0535529	FBpp0305092	FBpp0305092	CanA-14F-PD	FBgn0030758
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0.24083281	1.0456485	FBpp0081882	FBpp0081882	mgr-PA	FBgn0264694
-1.4449048	-1.0449345	FBpp0080164	FBpp0080164	Cyp28a5-PA	FBgn0028940
0.18670702	1.0448914	FBpp0297230	FBpp0297230	mRpS6-PB	FBgn0035534
1.84266996	1.0412786	FBpp0289693	FBpp0289693	CG42492-PA	FBgn0259994
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0.52968264	1.0376821	FBpp0074831	FBpp0074831	Ugt-PA	FBgn0014075
-0.2037125	-1.0350915	FBpp0310250	FBpp0310250	RpL7-PB	FBgn0005593
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0.31973743	1.0118458	FBpp0307124	FBpp0307124	Bacc-PD	FBgn0031453
1.51309013	1.0080984	FBpp0307820	FBpp0307820	Tsp42Ee-PB	FBgn0029506
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1.34153223	1.0050011	FBpp0071283	FBpp0071283	fh-PA	FBgn0030092
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1.05907202	0.9674168	FBpp0085924	FBpp0085924	CG10914-PA	FBgn0034307
-1.4045396	-0.9672048	FBpp0305448	FBpp0305448	CG17593-PB	FBgn0031544
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1.27316046	0.8518781	FBpp0087044	FBpp0087044	Lac-PA	FBgn0010238
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0.29258204	0.7733955	FBpp0311474	FBpp0311474	skpA-PI	FBgn0025637
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-0.8872347	-0.7350665	FBpp0312167	FBpp0312167	CG10616-PC	FBgn0036286
1.18830967	0.7345363	FBpp0086511	FBpp0086511	Arf51F-PE	FBgn0013750
-0.1318808	-0.7339372	FBpp0271801	FBpp0271801	RpS21-PE	FBgn0015521
-0.2269301	-0.7314708	FBpp0091110	FBpp0091110	His1:CG3386	FBgn0053864
0.25426245	0.7311686	FBpp0079233	FBpp0079233	Ostgamma-P	FBgn0032015
0.26937294	0.7306019	FBpp0309884	FBpp0309884	l(2)k09913-PI	FBgn0021979
0.19163656	0.7303047	FBpp0306570	FBpp0306570	CG11790-PC	FBgn0039265
-0.4450541	-0.7300237	FBpp0082055	FBpp0082055	CG5167-PA	FBgn0038038
-0.963315	-0.7288875	FBpp0312096	FBpp0312096	Rab6-PB	FBgn0015797
-1.0237947	-0.7288867	FBpp0307163	FBpp0307163	Arpc5-PB	FBgn0031437
0.15880585	0.7276839	FBpp0305997	FBpp0305997	path-PD	FBgn0036007
1.19854975	0.7272691	FBpp0288730	FBpp0288730	Ddc-PD	FBgn0000422
0.12392712	0.7268746	FBpp0311983	FBpp0311983	ATPsyn-d-PC	FBgn0016120
-0.0877147	-0.7234273	FBpp0075754	FBpp0075754	CG5642-PA	FBgn0036258
0.22074318	0.7229446	FBpp0293581	FBpp0293581	Spase22-23-P	FBgn0039172
0.89303207	0.7197026	FBpp0289769	FBpp0289769	brp-PH	FBgn0259246
0.14759445	0.7189378	FBpp0309201	FBpp0309201	RpL9-PC	FBgn0015756
0.1121273	0.718723	FBpp0300657	FBpp0300657	Etf-QO-PB	FBgn0033465
-0.2498827	-0.7157136	FBpp0080462	FBpp0080462	Mhc-PL	FBgn0264695
-0.3087325	-0.7137127	FBpp0292427	FBpp0292427	cher-PI	FBgn0014141
1.06070232	0.7130653	FBpp0305289	FBpp0305289	NHP2-PB	FBgn0029148
-0.1473498	-0.7116814	FBpp0087610	FBpp0087610	RpL31-PB	FBgn0025286
0.55734253	0.7113601	FBpp0070367	FBpp0070367	CG3835-PA	FBgn0023507
-1.3725023	-0.7112237	FBpp0310379	FBpp0310379	CG10413-PB	FBgn0032689
-1.2425852	-0.7108874	FBpp0075968	FBpp0075968	CG6310-PA	FBgn0036121
-1.4289699	-0.7107678	FBpp0085200	FBpp0085200	CG1910-PC	FBgn0022349
0.18248224	0.7094095	FBpp0308772	FBpp0308772	EMC1-PD	FBgn0037530
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0.13560486	0.7035726	FBpp0291433	FBpp0291433	CG30382-PB	FBgn0050382
-0.9946876	-0.7035009	FBpp0075272	FBpp0075272	Arl1-PA	FBgn0000115
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-1.0817671	-0.6993655	FBpp0310904	FBpp0310904	CG7675-PE	FBgn0038610
0.94527531	0.6992431	FBpp0309916	FBpp0309916	CG14022-PB	FBgn0031700
0.23195982	0.6964379	FBpp0099914	FBpp0099914	Gapdh1-PB	FBgn0001091
-0.2727399	-0.6959008	FBpp0304650	FBpp0304650	UK114-PB	FBgn0086691
-0.4383698	-0.6954324	FBpp0308249	FBpp0308249	CG44250-PB	FBgn0265185
0.34549284	0.6912048	FBpp0084534	FBpp0084534	Hmu-PA	FBgn0015737
-1.1727324	-0.6886991	FBpp0084438	FBpp0084438	sda-PA	FBgn0015541

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0.18330526	0.6828625	FBpp0311923	FBpp0311923	Clic-PC	FBgn0030529
0.69527721	0.680874	FBpp0306840	FBpp0306840	CG3714-PH	FBgn0031589
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-0.4041548	-0.6740245	FBpp0307010	FBpp0307010	Lsd-1-PD	FBgn0039114
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-1.2991505	-0.6690379	FBpp0304185	FBpp0304185	RhoGDI-PB	FBgn0036921
0.11337233	0.6686223	FBpp0291528	FBpp0291528	CG3961-PD	FBgn0036821
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-0.8024421	-0.6590351	FBpp0080024	FBpp0080024	CG5705-PA	FBgn0032486
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0.14493704	0.6450595	FBpp0100186	FBpp0100186	mt:Cyt-b-PA	FBgn0013678
-0.2778773	-0.6434501	FBpp0072694	FBpp0072694	alphaCOP-PA	FBgn0025725
-0.1776695	-0.6413125	FBpp0082270	FBpp0082270	B52-PB	FBgn0004587
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0.54670239	0.6398881	FBpp0303858	FBpp0303858	CG3609-PC	FBgn0031418
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0.14672041	0.6320194	FBpp0079542	FBpp0079542	eEF1delta-PB	FBgn0032198
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0.14484024	0.6315943	FBpp0303003	FBpp0303003	cl-PC	FBgn0000318
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-0.2156134	-0.6303328	FBpp0084161	FBpp0084161	OstStt3-PA	FBgn0011336

-0.4242845	-0.6294145	FBpp0074979	FBpp0074979	CG7630-PA	FBgn0040793
-1.4804673	-0.6267367	FBpp0075312	FBpp0075312	AGO2-PB	FBgn0087035
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0.43934727	0.5367803	FBpp0073609	FBpp0073609	GstT4-PA	FBgn0030484
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-0.0750933	-0.0448107	FBpp0291138	FBpp0291138	deltaCOP-PB	FBgn0028969
0.07200241	0.0439606	FBpp0072317	FBpp0072317	Tina-1-PA	FBgn0035083
-0.0190082	-0.0435522	FBpp0301600	FBpp0301600	CanB2-PB	FBgn0015614
0.05797291	0.0427451	FBpp0084252	FBpp0084252	CG5112-PA	FBgn0039341
-0.0730448	-0.0409121	FBpp0084579	FBpp0084579	wdb-PE	FBgn0027492
-0.0528874	-0.0387072	FBpp0075282	FBpp0075282	l(3)72Ab-PA	FBgn0263599
-0.0717344	-0.0376318	FBpp0309663	FBpp0309663	FKBP59-PB	FBgn0029174
0.00878763	0.0374588	FBpp0078354	FBpp0078354	RpL13A-PB	FBgn0037351
0.07869482	0.0369	FBpp0084200	FBpp0084200	CG31104-PA	FBgn0051104
-0.0497646	-0.0339233	FBpp0303950	FBpp0303950	Mo25-PB	FBgn0017572
-0.0108004	-0.0333181	FBpp0079304	FBpp0079304	mRpL51-PA	FBgn0032053
0.05835772	0.0292505	FBpp0087943	FBpp0087943	CG14762-PA	FBgn0033250
-0.0160279	-0.0283765	FBpp0311907	FBpp0311907	CG9914-PB	FBgn0030737
-0.0451474	-0.0281656	FBpp0304737	FBpp0304737	Mtor-PB	FBgn0013756
0.00925732	0.0276763	FBpp0289838	FBpp0289838	betaTub97EF	FBgn0003890
0.00750828	0.0258617	FBpp0083684	FBpp0083684	T-cp1-PA	FBgn0003676
-0.0056443	-0.0244372	FBpp0070584	FBpp0070584	VhaAC39-1-P	FBgn0028665
0.03585243	0.0237587	FBpp0087664	FBpp0087664	CG30344-PA	FBgn0050344
0.00308752	0.0230995	FBpp0086667	FBpp0086667	CG8531-PA	FBgn0033918
0.0149293	0.0210808	FBpp0303564	FBpp0303564	CG6055-PB	FBgn0031918
-0.0062399	-0.0209846	FBpp0073964	FBpp0073964	sun-PB	FBgn0014391

-0.0044022	-0.0176738	FBpp0071808	FBpp0071808	RpL23-PA	FBgn0010078
-0.0035744	-0.0170185	FBpp0307254	FBpp0307254	Src42A-PA	FBgn0264959
0.02601767	0.0168307	FBpp0080817	FBpp0080817	CG10166-PA	FBgn0032799
0.00240469	0.0158408	FBpp0085703	FBpp0085703	FK506-bp2-PA	FBgn0013954
-0.0057149	-0.0130478	FBpp0085720	FBpp0085720	betaTub56D-	FBgn0003887
0.00816822	0.0126763	FBpp0310400	FBpp0310400	fbp-PD	FBgn0032820
0.03403187	0.0104764	FBpp0271926	FBpp0271926	btv-PD	FBgn0023096
0.02113915	0.0089417	FBpp0305300	FBpp0305300	Dap160-PH	FBgn0023388
-0.0031729	-0.0081793	FBpp0311269	FBpp0311269	Cam-PE	FBgn0000253
0.00109005	0.0077744	FBpp0082460	FBpp0082460	CG3731-PB	FBgn0038271
0.00110054	0.0038844	FBpp0081736	FBpp0081736	Irp-1B-PA	FBgn0024957
0.00039053	0.0022019	FBpp0304633	FBpp0304633	CG42817-PB	FBgn0261999
0.00031328	0.0010817	FBpp0307466	FBpp0307466	Pka-C1-PD	FBgn0000273
0.00057459	0.000734	FBpp0309966	FBpp0309966	kcc-PG	FBgn0261794

Proteins/peptides significantly downregulated in bru1 mutant muscle			
geneID_MaxQuant	symbol_MaxQuant	Flybase_geneID	current_symbol
FBgn0000409	Cyt-c-p-PB	FBgn0284248	Cyt-c-p
FBgn0001125	Got2-PA	FBgn0001125	Got2
FBgn0001216	Hsc70-1-PA	FBgn0001216	Hsc70-1
FBgn0001220	Hsc70-5-PB	FBgn0001220	Hsc70-5
FBgn0001223	Hsp22-PB	FBgn0001223	Hsp22
FBgn0001225	Hsp26-PB	FBgn0001225	Hsp26
FBgn0001226	Hsp27-PB	FBgn0001226	Hsp27
FBgn0001247	Ide-PB	FBgn0001247	Ide
FBgn0001989	l(2)35Di-PC	FBgn0001989	ND-B17
FBgn0001995	mRpL4-PA	FBgn0001995	mRpL4
FBgn0002021	l(2)37Bb-PA	FBgn0002021	l(2)37Bb
FBgn0002174	l(2)tid-PB	FBgn0002174	CG5504
FBgn0002526	LanA-PA	FBgn0002526	LanA
FBgn0003149	Prm-PE	FBgn0003149	Prm
FBgn0003178	PyK-PB	FBgn0267385	PyK
FBgn0003721	Tm1-PF	FBgn0003721	Tm1
FBgn0003748	Treh-PG	FBgn0003748	Treh
FBgn0003942	RpS27A-PA	FBgn0003942	RpS27A
FBgn0004169	up-PH	FBgn0004169	up
FBgn0004465	Su(P)-PA	FBgn0004465	Su(P)
FBgn0004507	GlyP-PB	FBgn0004507	GlyP
FBgn0005322	nmd-PB	FBgn0005322	nmd
FBgn0005633	fln-PB	FBgn0005633	fln
FBgn0005666	bt-PI	FBgn0005666	bt
FBgn0010100	Acon-PF	FBgn0010100	mAcon1
FBgn0010226	GstS1-PC	FBgn0010226	GstS1
FBgn0010551	Phb2-PE	FBgn0010551	Phb2
FBgn0011286	RyR-PG	FBgn0011286	RyR
FBgn0011455	l(3)neo18-PB	FBgn0011455	ND-SGDH
FBgn0011754	PhKgamma-PH	FBgn0011754	PhKgamma
FBgn0011769	Fdxh-PB	FBgn0011769	Fdx1
FBgn0012036	Aldh-PB	FBgn0012036	Aldh
FBgn0013432	bcn92-PA	FBgn0013432	bcn92
FBgn0013674	mt:CoI-PA	FBgn0013674	mt:CoI
FBgn0013675	mt:CoII-PA	FBgn0013675	mt:CoII
FBgn0013981	His4r-PD	FBgn0013981	His4r
FBgn0015034	Cyp4e1-PA	FBgn0015034	Cyp4e1
FBgn0015245	Hsp60-PB	FBgn0015245	Hsp60A
FBgn0016041	Tom40-PC	FBgn0016041	Tom40

FBgn0017566	ND75-PB	FBgn0017566	ND-75
FBgn0019624	CoVa-PC	FBgn0019624	COX5A
FBgn0019957	ND42-PC	FBgn0019957	ND-42
FBgn0019960	Mitofilin-PD	FBgn0019960	Mitofilin
FBgn0020235	ATPsyn-gamma-PC	FBgn0020235	ATPsyngamma
FBgn0020653	Trxr-1-PA	FBgn0020653	Trxr-1
FBgn0020766	Aats-phe-PA	FBgn0275436	PheRS-m
FBgn0021856	l(2)k14505-PB	FBgn0021856	l(2)k14505
FBgn0021944	Coprox-PB	FBgn0021944	Coprox
FBgn0021967	Pdsw-PB	FBgn0021967	ND-PDSW
FBgn0023519	mRpL16-PB	FBgn0023519	mRpL16
FBgn0024556	EfTuM-PB	FBgn0024556	mEFTu1
FBgn0024947	NTPase-PF	FBgn0024947	NTPase
FBgn0026576	CG5991-PB	FBgn0026576	Pisd
FBgn0026666	l(1)G0136-PA	FBgn0026666	MagR
FBgn0026761	Trap1-PB	FBgn0026761	Trap1
FBgn0027085	Aats-leu-PA	FBgn0027085	LeuRS-m
FBgn0027601	pdgy-PD	FBgn0027601	pdgy
FBgn0027615	CG6404-PA	FBgn0027615	OXA1L
FBgn0027785	NP15.6-PA	FBgn0027785	NP15.6
FBgn0027794	CG14786-PA	FBgn0027794	Lrpprc2
FBgn0028325	l(1)G0334-PD	FBgn0028325	Pdha
FBgn0028482	CG16857-PA	FBgn0028482	bdl
FBgn0028515	EndoGI-PC	FBgn0028515	EndoGI
FBgn0028544	CG16884-PA	FBgn0028544	Vajk3
FBgn0028962	Aats-ala-m-PA	FBgn0028962	AlaRS-m
FBgn0029117	Surf1-PA	FBgn0029117	Surf1
FBgn0029118	Sucb-PC	FBgn0029118	ScsbetaG
FBgn0029155	Men-b-PA	FBgn0029155	Men-b
FBgn0029158	Las-PC	FBgn0029158	Las
FBgn0029514	312-PB	FBgn0029514	312
FBgn0029868	CG3446-PB	FBgn0029868	ND-B16.6
FBgn0029870	Marf-PB	FBgn0029870	Marf
FBgn0029942	CG2059-PB	FBgn0029942	CG2059
FBgn0030352	sicily-PB	FBgn0030352	sicily
FBgn0030403	CG1824-PA	FBgn0030403	CG1824
FBgn0030460	CG2453-PC	FBgn0030460	Coq5
FBgn0030552	mRpL38-PA	FBgn0030552	mRpL38
FBgn0030572	mRpS25-PA	FBgn0030572	mRpS25
FBgn0030692	mRpS30-PB	FBgn0030692	mRpS30
FBgn0030718	CG9172-PC	FBgn0030718	ND-20

FBgn0030743	CG9921-PC	FBgn0030743	CG9921
FBgn0031231	mRpL10-PA	FBgn0031231	mRpL10
FBgn0031247	CG11562-PA	FBgn0031247	CG11562
FBgn0031360	CG31937-PA	FBgn0031360	CG31937
FBgn0031500	CG17221-PC	FBgn0031500	CG17221
FBgn0031639	mRpS2-PA	FBgn0031639	mRpS2
FBgn0031651	mRpL24-PA	FBgn0031651	mRpL24
FBgn0031713	CG7277-PA	FBgn0031713	Coq6
FBgn0031774	CG9147-PD	FBgn0031774	CG9147
FBgn0031817	CG9531-PB	FBgn0031817	HemK1
FBgn0031836	CG11050-PC	FBgn0031836	CG11050
FBgn0032033	CG13392-PB	FBgn0032033	CG13392
FBgn0032129	jp-PE	FBgn0032129	jp
FBgn0032166	CG4619-PB	FBgn0032166	CG4619
FBgn0032229	CG5045-PB	FBgn0032229	CG5045
FBgn0032236	mRpS7-PB	FBgn0032236	mRpS7
FBgn0032247	CG5188-PA	FBgn0032247	CG5188
FBgn0032261	CG6094-PB	FBgn0032261	CG6094
FBgn0032393	CG12264-PA	FBgn0032393	Nfs1
FBgn0032397	Tom70-PC	FBgn0032397	Tom70
FBgn0032511	CG9306-PB	FBgn0032511	ND-B22
FBgn0032538	CG16885-PA	FBgn0032538	Vajk2
FBgn0032595	CG17996-PA	FBgn0032595	CG17996
FBgn0032646	CG6412-PA	FBgn0032646	mEFTs
FBgn0032679	bsf-PA	FBgn0284256	bsf
FBgn0032713	CG17323-PE	FBgn0032713	Ugt36D1
FBgn0032729	CG10639-PC	FBgn0032729	L2HGDH
FBgn0032744	Ttc19-PA	FBgn0032744	Ttc19
FBgn0032798	CG10132-PB	FBgn0032798	CG10132
FBgn0032922	CG9249-PB	FBgn0032922	Coq3
FBgn0033027	TpnC4-PB	FBgn0033027	TpnC4
FBgn0033038	CG7791-PA	FBgn0033038	CG7791
FBgn0033100	CG3420-PB	FBgn0033100	CG3420
FBgn0033184	CG12736-PA	FBgn0033184	mEFTu2
FBgn0033235	CG8728-PA	FBgn0033235	CG8728
FBgn0033307	CG14752-PA	FBgn0033307	CG14752
FBgn0033426	CG1814-PC	FBgn0033426	CG1814
FBgn0033608	CG13220-PB	FBgn0033608	CG13220
FBgn0033734	CG8520-PB	FBgn0033734	CG8520
FBgn0033761	CG8778-PA	FBgn0033761	CG8778
FBgn0033816	CG4679-PA	FBgn0033816	CG4679

FBgn0033891	CG8067-PB	FBgn0033891	CG8067
FBgn0033980	Cyp6a20-PB	FBgn0033980	Cyp6a20
FBgn0033989	CG7639-PB	FBgn0033989	CG7639
FBgn0034072	Dg-PB	FBgn0034072	Dg
FBgn0034182	CG9640-PB	FBgn0034182	SmydA-7
FBgn0034183	CG9642-PA	FBgn0034183	SmydA-6
FBgn0034361	mRpS28-PA	FBgn0034361	mRpS28
FBgn0034362	CG5323-PA	FBgn0034362	CG5323
FBgn0034368	CG5482-PD	FBgn0034368	zda
FBgn0034420	CG10737-PA	FBgn0034420	CG10737
FBgn0034438	CG9416-PB	FBgn0034438	CG9416
FBgn0034618	CG9485-PB	FBgn0034618	CG9485
FBgn0034727	mRpS29-PA	FBgn0034727	mRpS29
FBgn0034792	YME1L-PB	FBgn0034792	YME1L
FBgn0034793	asrij-PA	FBgn0034793	asrij
FBgn0034919	CG5569-PA	FBgn0034919	CG5569
FBgn0034940	CG16787-PA	FBgn0034940	CG16787
FBgn0035046	NDUFA8-PD	FBgn0035046	ND-19
FBgn0035206	CG9186-PA	FBgn0035206	CG9186
FBgn0035266	Gk-PF	FBgn0035266	Gk2
FBgn0035272	mRpL46-PA	FBgn0035272	mRpL46
FBgn0035334	CG8993-PA	FBgn0035334	CG8993
FBgn0035374	mRpS35-PA	FBgn0035374	mRpS35
FBgn0035515	CG14997-PA	FBgn0035515	CG14997
FBgn0035722	CG10075-PA	FBgn0035722	CG10075
FBgn0036044	Zasp67-PE	FBgn0036044	Zasp67
FBgn0036173	CG7394-PD	FBgn0036173	CG7394
FBgn0036334	CG11267-PA	FBgn0036334	CG11267
FBgn0036335	mRpL20-PA	FBgn0036335	mRpL20
FBgn0036557	mRpS31-PA	FBgn0036557	mRpS31
FBgn0036569	CG5414-PB	FBgn0036569	IleRS-m
FBgn0036629	CG4573-PA	FBgn0036629	GluRS-m
FBgn0036691	beg-PA	FBgn0036691	beg
FBgn0036726	CG7603-PA	FBgn0036726	QIL1
FBgn0036728	CG7580-PD	FBgn0036728	UQCR-Q
FBgn0036763	CG7441-PB	FBgn0036763	TrpRS-m
FBgn0036839	CG18136-PA	FBgn0036839	SmydA-2
FBgn0036929	CG7668-PC	FBgn0036929	CG7668
FBgn0037010	CG4825-PB	FBgn0037010	CG4825
FBgn0037018	CG4042-PB	FBgn0037018	CG4042
FBgn0037298	CG2604-PB	FBgn0037298	Sccpdh1

FBgn0037329	CG12162-PA	FBgn0037329	POLDIP2
FBgn0037440	CG1041-PB	FBgn0037440	CRAT
FBgn0037529	mRpS9-PA	FBgn0037529	mRpS9
FBgn0037566	mRpL1-PA	FBgn0037566	mRpL1
FBgn0037580	DppIII-PB	FBgn0037580	DppIII
FBgn0037610	CG8043-PA	FBgn0037610	CG8043
FBgn0037777	CG11722-PA	FBgn0037777	CG11722
FBgn0037807	CG6293-PB	FBgn0037807	CG6293
FBgn0037891	CG5214-PA	FBgn0037891	CG5214
FBgn0037933	Ho-PA	FBgn0037933	Ho
FBgn0038107	CG17327-PC	FBgn0038107	CG17327
FBgn0038234	mRpL11-PA	FBgn0038234	mRpL11
FBgn0038307	mRpS10-PA	FBgn0038307	mRpS10
FBgn0038326	CG5044-PA	FBgn0038326	CG5044
FBgn0038376	Hmt-1-PA	FBgn0038376	Hmt-1
FBgn0038400	CG5903-PB	FBgn0038400	CG5903
FBgn0038426	mRpS33-PA	FBgn0038426	mRpS33
FBgn0038570	Prx5-PB	FBgn0038570	Prx5
FBgn0038683	CG11779-PE	FBgn0038683	CG11779
FBgn0038744	CG4733-PE	FBgn0038744	CG4733
FBgn0038745	CG4538-PD	FBgn0038745	CG4538
FBgn0038871	CG3337-PA	FBgn0038871	CG3337
FBgn0038922	CG6439-PB	FBgn0038922	Idh3b
FBgn0038925	Cchl-PB	FBgn0038925	Cchl
FBgn0038961	CG13850-PB	FBgn0038961	CG13850
FBgn0038974	CG5377-PA	FBgn0038974	CG5377
FBgn0039145	CG6000-PD	FBgn0039145	CG6000
FBgn0039153	GatB-PA	FBgn0039153	GatB
FBgn0039252	CG11771-PA	FBgn0039252	CG11771
FBgn0039358	CG5028-PC	FBgn0039358	CG5028
FBgn0039555	mRpS22-PA	FBgn0039555	mRpS22
FBgn0039561	mfrn-PA	FBgn0039561	mfrn
FBgn0039588	CG12413-PA	FBgn0039588	mIF2
FBgn0039674	CG1907-PA	FBgn0039674	CG1907
FBgn0039697	CG7834-PB	FBgn0039697	CG7834
FBgn0039737	CG7920-PC	FBgn0039737	CG7920
FBgn0039856	CG1774-PB	FBgn0039856	CG1774
FBgn0039965	CG13865-PC	FBgn0039965	Coa7
FBgn0040099	lectin-28C-PC	FBgn0040099	lectin-28C
FBgn0040237	bor-PB	FBgn0040237	bor
FBgn0040260	Ugt36Bc-PC	FBgn0040260	Ugt37D1

FBgn0040389	mRpL14-PB	FBgn0040389	mRpL14
FBgn0040634	CG4186-PB	FBgn0040634	CG4186
FBgn0044510	mRpS5-PC	FBgn0044510	mRpS5
FBgn0050035	Tret1-1-PA	FBgn0050035	Tret1-1
FBgn0050100	CG30100-PB	FBgn0050100	CG30100
FBgn0050291	CG30291-PA	FBgn0050291	CG30291
FBgn0050373	CG30373-PB	FBgn0050373	CG30373
FBgn0050410	Rpi-PC	FBgn0050410	Rpi
FBgn0050481	mRpL53-PA	FBgn0050481	mRpL53
FBgn0050493	CG30493-PB	FBgn0050493	Coq9
FBgn0051126	CG31126-PA	FBgn0051126	CG31126
FBgn0051673	CG31673-PB	FBgn0051673	CG31673
FBgn0052112	CG32112-PD	FBgn0052112	CG32112
FBgn0052649	CG32649-PA	FBgn0052649	Coq8
FBgn0053519	Unc-89-PC	FBgn0053519	Unc-89
FBgn0064117	CG33714-PA	FBgn0064117	SLIRP1
FBgn0083953	CG34117-PA	FBgn0083953	CG34117
FBgn0083986	CG34150-PB	FBgn0083986	CG34150
FBgn0085271	CG34242-PB	FBgn0085271	CG34242
FBgn0086130	Dbp21E2-PA	FBgn0086130	Dbp21E2
FBgn0250874	ttm50-PA	FBgn0250874	ttm50
FBgn0259209	Mlp60A-PC	FBgn0259209	Mlp60A
FBgn0259219	CG42319-PE	FBgn0259219	CG42319
FBgn0260750	Mulk-PA	FBgn0260750	Mulk
FBgn0260779	gatA-PA	FBgn0260779	GatA
FBgn0261276	Opa1-PD	FBgn0261276	Opa1
FBgn0261353	Ccdc56-PA	FBgn0261353	Ccdc56
FBgn0261380	mRpL37-PB	FBgn0261380	mRpL37
FBgn0261437	CSN8-PB	FBgn0261437	CSN8
FBgn0261565	Lmpt-PK	FBgn0261565	Lmpt
FBgn0261618	larp-PH	FBgn0261618	larp
FBgn0261808	cu-PH	FBgn0261808	cu
FBgn0261955	kdn-PA	FBgn0261955	kdn
FBgn0262508	CG43078-PN	FBgn0262508	CG43078
FBgn0262559	Mdh2-PA	FBgn0262559	Mdh2
FBgn0263051	CG43346-PC	FBgn0263051	CG43346
FBgn0263120	Acsl-PJ	FBgn0263120	Acsl
FBgn0263133	ico-PA	FBgn0263133	mEFG1
FBgn0263977	Tim17b-PB	FBgn0263977	Tim17b
FBgn0263987	spoon-PE	FBgn0263987	spoon
FBgn0264695	Mhc-PT	FBgn0264695	Mhc

FBgn0265045	Strn-Mlck-PR, Strn-M	FBgn0265045	Strn-Mlck
FBgn0265178	CG44243-PB	FBgn0265178	CG44243
FBgn0265512	mlt-PC	FBgn0265512	mlt
FBgn0265998	Doa-PP	FBgn0265998	Doa
FBgn0266064	GlyS-PD	FBgn0266064	GlyS
FBgn0266268	FeCH-PA	FBgn0266268	FeCH

Proteins/peptides significantly upregulated in bru1 mutant muscle			
geneID_MaxQuant	symbol_MaxQuant	Flybase_geneID	current_symbol
FBgn0000032	Acph-1-PA	FBgn0000032	Acph-1
FBgn0000044	Act57B-PA	FBgn0000044	Act57B
FBgn0000053	ade3-PC	FBgn0000053	Gart
FBgn0000083	AnxB9-PF	FBgn0000083	AnxB9
FBgn0000084	AnxB10-PA	FBgn0000084	AnxB10
FBgn0000116	Argk-PH	FBgn0000116	Argk
FBgn0000239	bur-PC	FBgn0000239	bur
FBgn0000319	Chc-PG	FBgn0000319	Chc
FBgn0000477	DNaseII-PA	FBgn0000477	DNaseII
FBgn0000556	Ef1alpha48D-PE	FBgn0284245	eEF1alpha1
FBgn0000639	Fbp1-PA	FBgn0000639	Fbp1
FBgn0000640	Fbp2-PC	FBgn0000640	Fbp2
FBgn0001098	Gdh-PA	FBgn0001098	Gdh
FBgn0001142	Gs1-PD	FBgn0001142	Gs1
FBgn0001218	Hsc70-3-PE	FBgn0001218	Hsc70-3
FBgn0001250	if-PC	FBgn0001250	if
FBgn0002563	Lsp1beta-PB	FBgn0002563	Lsp1beta
FBgn0002564	Lsp1gamma-PA	FBgn0002564	Lsp1gamma
FBgn0002565	Lsp2-PB	FBgn0002565	Lsp2
FBgn0002607	RpL19-PB	FBgn0285950	RpL19
FBgn0002638	Rcc1-PC	FBgn0002638	Rcc1
FBgn0003149	Prm-PB	FBgn0003149	Prm
FBgn0003274	RpLP2-PA	FBgn0003274	RpLP2
FBgn0003607	Su(var)205-PB	FBgn0003607	Su(var)205
FBgn0003660	Syb-PD	FBgn0003660	Syb
FBgn0003721	Tm1-PO, Tm1-PL	FBgn0003721	Tm1
FBgn0003888	betaTub60D-PB	FBgn0003888	betaTub60D
FBgn0003889	betaTub85D-PA	FBgn0003889	betaTub85D
FBgn0004028	wupA-PE	FBgn0283471	wupA
FBgn0004117	Tm2-PG	FBgn0004117	Tm2
FBgn0004169	up-PO	FBgn0004169	up
FBgn0004397	Vinc-PC	FBgn0004397	Vinc
FBgn0004404	RpS14b-PB	FBgn0004404	RpS14b
FBgn0004636	R-PC	FBgn0004636	Rap1
FBgn0004657	mys-PD	FBgn0004657	mys
FBgn0004779	Ccp84Ae-PA	FBgn0004779	Ccp84Ae
FBgn0005536	Mbs-PE	FBgn0005536	Mbs
FBgn0005585	Crc-PB	FBgn0005585	Calr
FBgn0005648	Pabp2-PB	FBgn0005648	Pabp2

FBgn0005666	bt-PH	FBgn0005666	bt
FBgn0008635	betaCOP-PA	FBgn0008635	betaCOP
FBgn0010225	Gel-PK	FBgn0010225	Gel
FBgn0010235	Klc-PC	FBgn0010235	Klc
FBgn0010333	Rac1-PB	FBgn0010333	Rac1
FBgn0010397	LamC-PA	FBgn0010397	LamC
FBgn0010412	RpS19a-PE	FBgn0010412	RpS19a
FBgn0010591	Sply-PB	FBgn0010591	Sply
FBgn0010638	Sec61beta-PA	FBgn0010638	Sec61beta
FBgn0010774	Ref1-PA	FBgn0010774	Ref1
FBgn0011296	l(2)efl-PC	FBgn0011296	l(2)efl
FBgn0011570	cpb-PB	FBgn0011570	cpb
FBgn0011722	Tig-PB	FBgn0011722	Tig
FBgn0013763	CG5210-PB	FBgn0013763	Idgf6
FBgn0013770	Cp1-PE	FBgn0013770	Cp1
FBgn0014002	Pdi-PE	FBgn0286818	Pdi
FBgn0014010	Rab5-PI	FBgn0014010	Rab5
FBgn0014020	Rho1-PG	FBgn0014020	Rho1
FBgn0015282	Rpt2-PB	FBgn0015282	Rpt2
FBgn0015393	hoip-PB	FBgn0286786	hoip
FBgn0015766	Msr-110-PB	FBgn0015766	Msr-110
FBgn0015789	Rab10-PA	FBgn0015789	Rab10
FBgn0015808	ScpX-PA	FBgn0015808	ScpX
FBgn0015924	crq-PE	FBgn0015924	crq
FBgn0016122	Acer-PB	FBgn0016122	Acer
FBgn0016715	Reg-2-PA	FBgn0016715	Reg-2
FBgn0017482	T3dh-PA	FBgn0017482	T3dh
FBgn0020369	Rpt6-PA	FBgn0020369	Rpt6
FBgn0020414	Idgf3-PD	FBgn0020414	Idgf3
FBgn0020415	Idgf2-PA	FBgn0020415	Idgf2
FBgn0020416	Idgf1-PA	FBgn0020416	Idgf1
FBgn0020443	Elf-PC	FBgn0020443	eRF3
FBgn0020503	CLIP-190-PN	FBgn0020503	CLIP-190
FBgn0020908	Scp1-PB	FBgn0020908	Scp1
FBgn0022027	Vps25-PA	FBgn0022027	Vps25
FBgn0022355	Tsf1-PC	FBgn0022355	Tsf1
FBgn0023479	teq-PG	FBgn0023479	teq
FBgn0023535	arg-PA	FBgn0023535	arg
FBgn0024183	vig-PB	FBgn0024183	vig
FBgn0024293	Spn43Ab-PB	FBgn0024293	Spn43Ab
FBgn0024315	Picot-PD	FBgn0024315	Picot

FBgn0024509	Sec13-PB	FBgn0024509	Sec13
FBgn0026176	skpB-PA	FBgn0026176	SkpB
FBgn0026259	eIF5B-PE	FBgn0026259	eIF5B
FBgn0026415	Idgf4-PC	FBgn0026415	Idgf4
FBgn0026753	Vha13-PB	FBgn0283536	Vha13
FBgn0027053	CSN5-PA	FBgn0027053	CSN5
FBgn0027073	CG4302-PA	FBgn0027073	Ugt49B1
FBgn0027338	Kap-alpha3-PD	FBgn0027338	Kap-alpha3
FBgn0027571	CG3523-PA	FBgn0283427	FASN1
FBgn0027572	CG5009-PA	FBgn0027572	CG5009
FBgn0027610	Dic1-PC	FBgn0027610	Dic1
FBgn0027611	LManII-PA	FBgn0027611	LManII
FBgn0027657	glob1-PF	FBgn0027657	glob1
FBgn0027793	CG14787-PA	FBgn0027793	CG14787
FBgn0027865	Tsp96F-PC	FBgn0027865	Tsp96F
FBgn0028396	TotA-PA	FBgn0028396	TotA
FBgn0028526	CG15293-PC	FBgn0028526	CG15293
FBgn0028546	ics-PC	FBgn0028546	ics
FBgn0028684	Rpt5-PA	FBgn0028684	Rpt5
FBgn0028687	Rpt1-PA	FBgn0028687	Rpt1
FBgn0028689	Rpn6-PC	FBgn0028689	Rpn6
FBgn0028691	Rpn9-PA	FBgn0028691	Rpn9
FBgn0028692	Rpn2-PC	FBgn0028692	Rpn2
FBgn0028693	Rpn12-PA	FBgn0028693	Rpn12
FBgn0028694	Rpn11-PA	FBgn0028694	Rpn11
FBgn0029167	Hml-PB	FBgn0029167	Hml
FBgn0029823	CG3011-PC	FBgn0029823	Shmt
FBgn0029854	CG3566-PC	FBgn0029854	CG3566
FBgn0029969	CG10932-PB	FBgn0029969	CG10932
FBgn0029971	CG18624-PE	FBgn0029971	ND-MNLL
FBgn0029990	CG2233-PA	FBgn0029990	CG2233
FBgn0030026	sni-PB	FBgn0030026	sni
FBgn0030086	CG7033-PA	FBgn0030086	CCT2
FBgn0030245	CG1637-PC	FBgn0030245	CG1637
FBgn0030251	CG2145-PB	FBgn0030251	CG2145
FBgn0030362	regucalcin-PB	FBgn0030362	regucalcin
FBgn0030519	CG11151-PB	FBgn0030519	CG11151
FBgn0030653	CG7860-PB	FBgn0030653	CG7860
FBgn0030699	CG8578-PC	FBgn0030699	CG8578
FBgn0030703	MSBP-PC	FBgn0030703	MSBP
FBgn0030724	Nipsnap-PF	FBgn0030724	Nipsnap

FBgn0030749	AnxB11-PD	FBgn0030749	AnxB11
FBgn0030968	CG7322-PC	FBgn0030968	CG7322
FBgn0030976	CG7378-PB	FBgn0030976	CG7378
FBgn0031037	CG14207-PB	FBgn0031037	CG14207
FBgn0031187	Usp2-PA	FBgn0031187	Usp2
FBgn0031450	Hrs-PC	FBgn0031450	Hrs
FBgn0031590	CG3702-PB	FBgn0031590	CG3702
FBgn0031815	frj-PB	FBgn0031815	frj
FBgn0031893	CG4495-PA	FBgn0031893	MICU1
FBgn0031913	CG5958-PA	FBgn0031913	CG5958
FBgn0031937	CG13795-PC	FBgn0031937	CG13795
FBgn0032387	CG16965-PC	FBgn0032387	CG16965
FBgn0032518	RpL24-PC	FBgn0032518	RpL24
FBgn0032704	Jwa-PB	FBgn0032704	Jwa
FBgn0032773	fon-PC	FBgn0032773	fon
FBgn0032880	CG9318-PB	FBgn0032880	TM9SF2
FBgn0033191	CG1598-PA	FBgn0033191	CG1598
FBgn0033205	CG2064-PA	FBgn0033205	CG2064
FBgn0033246	ACC-PA	FBgn0033246	ACC
FBgn0033264	Nup50-PA	FBgn0033264	Nup50
FBgn0033304	Cyp6a13-PA	FBgn0033304	Cyp6a13
FBgn0033367	PPO2-PA	FBgn0033367	PPO2
FBgn0033428	Updo-PA	FBgn0033428	Updo
FBgn0033431	CG1827-PD	FBgn0033431	CG1827
FBgn0033504	CAP-PQ	FBgn0033504	CAP
FBgn0033663	ERp60-PA	FBgn0033663	ERp60
FBgn0033769	CG8768-PA	FBgn0033769	CG8768
FBgn0033879	CG6543-PB	FBgn0033879	Echs1
FBgn0033886	Rpn13-PG	FBgn0033886	Rpn13
FBgn0033919	CG8547-PE	FBgn0033919	CG8547
FBgn0033949	CG10131-PA	FBgn0033949	Had2
FBgn0033961	CG12859-PA	FBgn0033961	ND-B15
FBgn0034091	mrj-PH	FBgn0034091	mrj
FBgn0034138	RpS15-PA	FBgn0034138	RpS15
FBgn0034267	CG4984-PB	FBgn0034267	CG4984
FBgn0034276	CG6385-PA	FBgn0034276	Sardh
FBgn0034356	CG10924-PA	FBgn0034356	Pepck2
FBgn0034512	CG18067-PB	FBgn0034512	CG18067
FBgn0034577	cpa-PA	FBgn0034577	cpa
FBgn0034628	Acox57D-p-PB	FBgn0034628	Acox57D-p
FBgn0034708	Vps35-PA	FBgn0034708	Vps35

FBgn0034709	Swim-PA	FBgn0034709	Swim
FBgn0034902	CG5532-PB	FBgn0034902	CG5532
FBgn0035044	CG3663-PA	FBgn0035044	CG3663
FBgn0035251	CG7967-PA	FBgn0035251	Vta1
FBgn0035586	CG10671-PA	FBgn0035586	Fitm
FBgn0035715	CG10103-PF	FBgn0035715	CG10103
FBgn0035763	CG8602-PB	FBgn0035763	CG8602
FBgn0035770	pst-PG	FBgn0035770	pst
FBgn0035909	ergic53-PA	FBgn0035909	ergic53
FBgn0035911	CG6638-PA	FBgn0035911	CG6638
FBgn0035947	Srp68-PA	FBgn0035947	Srp68
FBgn0035982	CG4461-PA	FBgn0035982	CG4461
FBgn0035995	CG3529-PC	FBgn0035995	CG3529
FBgn0036058	CG6707-PB	FBgn0036058	CG6707
FBgn0036211	CG5946-PA	FBgn0036211	CG5946
FBgn0036341	Syx13-PB	FBgn0036341	Syx13
FBgn0036364	CG14109-PB	FBgn0036364	CG14109
FBgn0036365	cmb-PA	FBgn0036365	cmb
FBgn0036410	CG8100-PB	FBgn0036410	CG8100
FBgn0036479	CG13458-PA	FBgn0036479	CG13458
FBgn0036745	CG7484-PB	FBgn0036745	CG7484
FBgn0036752	Adgf-A-PB	FBgn0036752	Adgf-A
FBgn0036762	CG7430-PB	FBgn0036762	CG7430
FBgn0036806	Cyp12c1-PB	FBgn0036806	Cyp12c1
FBgn0036816	Indy-PD	FBgn0036816	Indy
FBgn0036824	CG3902-PA	FBgn0036824	CG3902
FBgn0036857	CG9629-PA	FBgn0036857	Aldh7A1
FBgn0036975	CG5618-PA	FBgn0036975	CG5618
FBgn0037057	CG10512-PD	FBgn0037057	CG10512
FBgn0037137	Nopp140-PA	FBgn0037137	Nopp140
FBgn0037239	CG11739-PB	FBgn0037239	Sfxn1-3
FBgn0037270	CG9769-PA	FBgn0037270	eIF3f1
FBgn0037370	CG1236-PA	FBgn0037370	CG1236
FBgn0037447	Neurochondrin-PA	FBgn0037447	Neurochondrin
FBgn0037537	CG2767-PA	FBgn0037537	CG2767
FBgn0037801	CG3999-PB	FBgn0037801	CG3999
FBgn0037819	CG14688-PB	FBgn0037819	CG14688
FBgn0037913	fabp-PB	FBgn0037913	fabp
FBgn0037975	CG3397-PA	FBgn0037975	CG3397
FBgn0038072	CG6225-PB	FBgn0038072	CG6225
FBgn0038115	CG7966-PA	FBgn0038115	CG7966

FBgn0038294	Mf-PJ, Mf-PB	FBgn0038294	Mf
FBgn0038738	CG4572-PD	FBgn0038738	CG4572
FBgn0038774	CG5023-PA	FBgn0038774	CG5023
FBgn0039008	CG6972-PA	FBgn0039008	CG6972
FBgn0039049	CG6726-PC	FBgn0039049	CG6726
FBgn0039156	CG6178-PA	FBgn0039156	CG6178
FBgn0039213	atl-PC	FBgn0039213	atl
FBgn0039685	Obp99b-PB	FBgn0039685	Obp99b
FBgn0039735	CG7911-PB	FBgn0039735	Nph
FBgn0039800	Npc2g-PB	FBgn0039800	Npc2g
FBgn0039827	CG1544-PA	FBgn0039827	CG1544
FBgn0039854	CG1635-PA	FBgn0039854	CG1635
FBgn0040064	yip2-PA	FBgn0040064	yip2
FBgn0040493	grsm-PB	FBgn0040493	grsm
FBgn0040918	schlank-PB	FBgn0040918	schlank
FBgn0041182	Tep2-PB	FBgn0041182	Tep2
FBgn0041191	Rheb-PB	FBgn0041191	Rheb
FBgn0041630	Hexo1-PF	FBgn0041630	Hexo1
FBgn0041775	tral-PB	FBgn0041775	tral
FBgn0041789	Pax-PK	FBgn0041789	Pax
FBgn0042083	CG3267-PA	FBgn0042083	Mccc2
FBgn0042185	CG18769-PE	FBgn0042185	MCU
FBgn0042693	PP2A-B-PC	FBgn0042693	wrd
FBgn0043841	vir-1-PH	FBgn0043841	vir-1
FBgn0050000	GstT1-PA	FBgn0050000	GstT1
FBgn0051352	Unc-115a-PE	FBgn0051352	Unc-115a
FBgn0051729	CG31729-PD	FBgn0051729	CG31729
FBgn0052311	zormin-PI	FBgn0052311	zormin
FBgn0052549	CG32549-PD	FBgn0052549	CG32549
FBgn0052702	Cubn-PB	FBgn0052702	Cubn
FBgn0053865	His2A:CG33865-PA	FBgn0053865	His2A:CG33865
FBgn0083228	Frq2-PD	FBgn0083228	Frq2
FBgn0085446	CG34417-PR	FBgn0085446	CG34417
FBgn0085453	CG34424-PB	FBgn0085453	Mthfs
FBgn0086708	stv-PG	FBgn0086708	stv
FBgn0086906	sls-PP	FBgn0086906	sls
FBgn0087002	Rfabg-PD	FBgn0087002	apolpp
FBgn0250746	Prosbeta7-PB	FBgn0250746	Prosbeta7
FBgn0259979	CG17337-PA	FBgn0259979	CG17337
FBgn0260010	rump-PA	FBgn0267790	rump
FBgn0260442	rhea-PH	FBgn0260442	rhea

FBgn0260462	CG12163-PA	FBgn0260462	CG12163
FBgn0260743	GC1-PB	FBgn0260743	GC1
FBgn0260745	mfas-PQ	FBgn0260745	mfas
FBgn0260855	Sec22-PA	FBgn0260855	Sec22
FBgn0261119	Prp19-PA	FBgn0261119	Prp19
FBgn0261606	RpL27A-PD	FBgn0285948	RpL27A
FBgn0261794	kcc-PC	FBgn0261794	kcc
FBgn0261797	Dhc64C-PC	FBgn0261797	Dhc64C
FBgn0261836	Msp300-PK	FBgn0261836	Msp300
FBgn0262124	uex-PG	FBgn0262124	uex
FBgn0263006	SERCA-PA	FBgn0263006	SERCA
FBgn0263321	CG43402-PB	FBgn0263321	CG43402
FBgn0263594	lost-PA	FBgn0263594	lost
FBgn0263776	CG43693-PC	FBgn0263776	CG43693
FBgn0264489	CG43897-PM	FBgn0264489	CG43897
FBgn0264693	ens-PL	FBgn0264693	ens
FBgn0264695	Mhc-PI, Mhc-PA	FBgn0264695	Mhc
FBgn0264894	CG44085-PM	FBgn0264894	CG44085
FBgn0265137	Spn42Da-PA	FBgn0265137	Spn42Da
FBgn0265180	CG44245-PA	FBgn0265180	CG44245
FBgn0265191	Glycogenin-PD	FBgn0265191	Gyg
FBgn0265356	tn-PA	FBgn0265356	tn
FBgn0265434	zip-PG	FBgn0265434	zip
FBgn0265991	Zasp52-PF	FBgn0265991	Zasp52
FBgn0266084	Fhos-PJ	FBgn0266084	Fhos
FBgn0266446	CG45076-PH	FBgn0266446	CG45076

Supplementary Materials and Methods

Fly husbandry

Fly stocks were maintained using standard culture conditions. Experimental crosses were grown at 27^0 C. Muscle-specific expression was achieved with *Mef2*-GAL4[1]. GFP labeling was from *UAS*-CD8::GFP[2] or *UAS*-GFP::Gma[3]. Controls include w^{1118} or *Mef2*-GAL4 x w^{1118}. *UAS-bru1IR* was previously published as *aret-IR*[4]. $Salm^{-/-}$ is the $salm^{FRT}$ allele used in trans to the $salm^{1}$ null allele[14]. $Bru1^{M2}$ and $Bru1^{M3}$ are CRISPR-generated deletion alleles using the Zhang *et al*. approach[5] that delete the C-terminal coding region of Bruno1, including all of RRM3 that is required for RNA binding. More details are available upon request. *weeP26* is a GFP trap line in *Mhc*[6].

Immunofluorescence and microscopy

Male flies were dissected at the specified timepoints as previously described[7]. For 24 h APF, 32 h APF and 48 h APF, pupae were dissected via the open-book method[7], then fixed for 20 min. in 4% PFA in .05% PBS-Triton-X100. For 72 h APF, 90 h APF and 1 d adult, abdomens were removed, flies were fixed for 15 min. in 4% PFA in .05% PBS-T and then thoraxes were cut longitudinally with a microtome blade. All samples were blocked for at least 1 hour at RT in 5% normal goat serum in PBS-T. Samples were stained with rhodamine-phalloidin and GFP detection reagent at 1:500. After washing 3x in 0.5% PBS-T, samples were mounted in slide mounting buffer containing DAPI. Images were acquired via confocal microscopy (see **Table of Materials**). For whole pupal timecourse and dissection images, GFP fluorescence was imaged live on a fluorescent dissecting microscope (see **Table of Materials**). Additional protocol images were acquired with a cell phone camera (see **Table of Materials**). Images were further processed with Fiji (Image J) and image processing software (see **Table of Materials**). GFP intensity images (Figures 2 & 3) were generated using the "Fire" LUT in Image J.

RNA isolation

For timepoints <48 h APF, samples are dissected in black dissecting dishes. The dissections are also possible in transparent glass dissection dishes on a black background, and presumably in any type of concave-shaped dissection dish. With clear glass, there tends to be more diffuse fluorescence. It is also possible to dissect on black silicon dishes (see **Table of Materials**). We prefer a concave surface, however, as tissue does not stay as nicely in place on a flat surface when dissecting under buffer.

IFM dissection was performed in chilled 1x PBS (without Triton-X100 detergent) according to the protocol presented in the main text. We avoid the use of detergent in the dissection buffer to limit the damage to IFM membranes, keep the IFMs alive longer and avoid RNA degradation associated with muscle cell death. Dissection time was limited to 20-30 minutes, because after this time we noticed increasing levels of RNA degradation from RNA integrity traces. IFM samples were transferred to 1.5 mL microcentrifuge tubes and centrifuged for 3-5 min at 2,000 x g. Buffer was completely removed. For standard RNA isolation (Method 1), IFM pellet was

resuspended in 50-100 µL of reagent. Samples were immediately frozen on dry ice and stored at -80^0 C until further processing.

For estimation of the total RNA recovered from the IFMs per 1 d adult fly (**Supplemental Figure 1A**), IFM was dissected from 50 1d adult male flies by three different researchers. We additionally performed dissections from 10, 25 and 50 flies, and observed similar yields per fly but increasing total RNA concentrations isolated (as expected). The average yield was calculated plus or minus SEM, as measured by Approach 3. For estimation of the total RNA from IFMs per fly at 30 h APF, 48 h APF, 72 h APF and 1 d adult (**Supplemental Figure 1B**), the same researcher dissected 50 flies for each timepoint and performed 2 biological replicates. All samples were isolated with Method 1 (see below), and RNA concentrations measured by Approach 3 (see **Table of Materials**). In the main text (**Figure 4F, G**), we compiled data dissected by 5 researchers over 9 years and isolated using Method 1 (see **Table of Materials**). The data reflect RNA concentration measurements by Approach 1, 2 and 3.

To test the importance of working RNase free, we performed several control experiments. We isolated total RNA from 10 adult male w^{1118} flies using Method 1. We compared RNA integrity traces (from Approach 1) and RNA concentrations of an RNA sample freshly isolated using Method 1 to samples that underwent multiple rounds of freeze-thaw (1x, 2x, 3x, 10x, 15x, 25x; freezing on dry ice and thawing on ice), to samples left on the bench (1 h, 4 h, overnight) and RNA samples treated with RNase A (5 min., 15 min., 30 min., 1 hour, .5 µL, .05 µL, .005 µL, .0005 µL). RNase A was kept as a 4 mg/mL stock. With RNase treatment, we generated either flat RNA integrity profiles (indicative of complete degradation) or profiles showing degradation (loss of ribosomal bands and strong signal biased towards the lower nt range). With all other treatments we were not able to discern any differences in RNA integrity profiles. We interpret this result to mean that while working on ice and avoiding freeze-thaw cycles is of course recommended, RNA in a clean prep is relatively stable. However, even miniscule amounts of RNase will rapidly destroy an RNA sample.

Standard RNA isolation protocol (Method 1)

Following our published RNA isolation protocol[4], IFM pellets were thawed, homogenized in isolation reagent (Method 1, see **Table of Materials**) with a blue pestle, combined and adjusted to a final volume of 500 µL isolation reagent. Samples were mixed well and incubated for 5 min at room temperature. 100 µL of chloroform was added and the samples were shook vigorously for 15 seconds, followed by a 3 minute incubation at room temperature. Samples were centrifuged for 15 min. at 12,000 x g at 4^0 C. The upper RNA-containing phase was carefully removed (~200 µL total) and placed in a new RNase-free microcentrifuge tube. To increase RNA yield, 1 µL of 20 µg/ µL glycogen was added to all samples and mixed well. Total RNA was precipitated by addition of 250 µL of isopropanol, incubated on dry ice for 10 minutes and then centrifuged at 12,000 x g for 15 minutes at 4^0 C. It is important to use fresh isopropanol in this step (that is RNase-free and has not otherwise changed concentration), or RNA will not effectively precipitate. The resulting RNA-DNA pellets

were washed using 750 µL of 75% Ethanol (in RNase-free water, see **Table of Materials**), centrifuged at 8,000 x g for 10 minutes at 4^0 C and stored at -80^0 C as pellets. This allowed us to resuspend the RNA from all samples on the same day for RNA concentration and quality measurements. After removal of 75% Ethanol-RNase-free water, pellets were air dried for approximately 10 minutes and RNA was dissolved in a final volume of 30 µL with RNase-free water preheated to 55^0 C.

RNA isolation using commercial kits (Methods 2-6, see **Table of Materials**)
In **Figure 4G**, we compile data from 3 researchers dissected over 9 years and isolated according to the manufacturers protocol (as described below) for 6 different methods, notably multiple commercial RNA isolation kits. Data represent RNA measurements by Approach 1, 2 and 3. To compare different RNA extraction methods in a more controlled manner (**Supplemental Figure 1C**), a single researcher dissected 10 different samples and we show Approach 1 measurements of RNA concentration. Each sample consisted of IFM dissected from 50 1d adult male flies. This allowed us to test 6 extraction methods in duplicate (*i.e.* 2 biological replicates for each method). For all 6 methods, after dissection and removal of PBS, IFM pellets were frozen "dry" (*i.e.* without resuspending in any buffer) on dry ice and stored dry at -80^0 C until further use. Two of these "dry-frozen" samples were processed as above using Method 1, which we coded Method 1 (dry). After removing aliquots for RNA concentration and integrity measurements, they were further treated with a commercial kit to remove DNA, which we coded Method 2.

The remaining 8 samples were processed according to the relevant manufacturer protocol. For Method 3, dry frozen pellets were re-suspended in 600 µl of RNA isolation buffer from Method 1. The recommended DNase treatment was done using the DNase and reaction buffer from Method 6. For Method 4-6, we used the DNase treatments provided by the respective kits. When using Method 4, IFM pellets were homogenized in 350 µL of buffer as suggested for animal tissues <20mg. For Method 5, we applied the protocol for fibrous tissues. The dry IFM pellets were homogenized in 250 µL of isolation buffer as suggested for RNA samples <5 mg. Using Method 6, we applied the protocol for tissues and homogenized IFM pellets in 300 µL of protection reagent as suggested for samples up to 10 mg. Note that the final volume of all total RNA samples after elution was 30 µL. After elution, all samples were stored at -80^0C and the RNA quality and quantity was measured on the next day.

Measurement of total RNA concentrations and quality
For **Supplemental Figure 1**, all measurements were performed on the same day. Note that multiple devices are commercially available to measure RNA concentrations accurately from small samples, of which we used three different devices (Approach 1, 2 and 3, see **Table of Materials**). Concentrations from Approach 3 are shown in **Supplemental Figure 1A-C**. Total RNA samples were measured 3x 1 µl using Approach 2 to provide higher accuracy. Similarly, 3 µl of each total RNA sample were used for analysis via Approach 3 using Component A and Component B as controls. The total RNA quantity and quality were also assessed by Approach 1 using pico chips. For better resolution, the stock samples were diluted either 1:50 or 1:100 in TE buffer prior to loading on the chips. Data used to generate

the plots in **Figure 4 F and G** are a compilation of measurements obtained by Approach 1, 2 or 3. Each dissected sample is represented by a single dot, but given the timeframe and number of researchers involved, it was not possible to use RNA concentration measurements from a single instrument. Data were analyzed with statistical software (see **Table of Materials**).

Reverse Transcription

To test the sensitivity of different reverse transcription (RT) kits (**Figure 4K**), we used RNA obtain via Method 6. RT reactions were performed simultaneously using RT Kits 1, 2 and 3 (see **Table of Materials**). In each case, the direct instructions from the respective manufacturer were applied. The resulting cDNA samples were used for the RT-PCR reaction with primers against flight muscle specific splice factor Bruno1 (*bru1*) (F: AGCCTGCCGAATAGTCCC; R: CTTTCAGGGCGGCGTGTC) and Ribosomal protein 49 (*rp49*) (F: GGTATCGACAACAGAGTGCG; R: GAACTTCTTGAATCCGGTGGG) in the same PCR reaction. cDNA was amplified using polymerase for 35 cycles. 2 µL of cDNA was used in each reaction. Band intensity was quantified in image processing software and is presented as total intensity of the *bru1* band divided by the total intensity of the *rp49* band. Intensity of the *rp49* band is comparable between RT Kit #1 and #2. Significance was tested in statistical software using an Unpaired, 2-tailed t-test.

To show the developmental switch in Mhc splicing in wild-type IFM in comparison to leg muscle and IFM from Bruno1 mutant (**Figure 5D**), we used the samples dissected above from *Mef2*-GAL4, *UAS*-mCD8::GFP flies at 30 h APF, 48 h APF, 72 h APF and 1 d adult. We dissected IFMs from 30 1 d adult $bru1^{M3}$ mutants and collected legs from 30 1 day w^{1118} wild-type flies (see description of dissection below). All RNA samples were isolated with Method 1. The *Mhc* alternative splice events were detected using primer sets previously described for *Mhc* exons 17-19[8] (here referred to by current annotation as exons 35-38, see below). The cDNA was amplified using a high fidelity polymerase and buffer (see **Table of Materials**) for 30 cycles.

Mapping of *weeP26*

To verify the insertion location of the *weeP26* GFP trap line previously characterized to be inserted somewhere between exons 18 and 19 of *Mhc*[6,8], we performed Splinkerette PCR[9]. This allowed us to map the insertion point to within 5 nucleotides: **TTCAGGGAGTGCTAGTCGTACTCGTTAT.** The sequences we obtained from the upstream and downstream Splinkerette PCRs are highlighted yellow, implying that the insertion is between any two of the nucleotides in red. Indeed, the P-element does map to the last intron of *Mhc* as reported, but new annotations of the genome attribute many more exons to *Mhc* and former exon 18 consists of two exons based on more detailed splicing knowledge. Thus, we refer to *Mhc* exons by their up-to-date numbering as follows: new [old]; Exon 34 [Exon 17]; Exon 35 & 36 [Exon 18]; Exon 37 [Exon 19]. Even with the updated annotation, there is only a single Mhc isoform (Exon 34-37), where the GFP is spliced into an ORF and actually translated into protein, matching the interpretations of previous studies[8].

Dissection of leg and jump muscle (TDT) samples

We provide an estimate of total RNA recovered per fly for leg and jump muscle dissections in **Supplemental Figure 1D**. Whole legs were used for RNA isolation for mRNA-Seq (late pupae and adults, 100 flies; young pupae, 150-200 flies) and RT-PCR (30 flies). Legs were cut from the thorax using fine scissors. For pupal timepoints, the pupa was removed from the pupal case as described in Figure 3. The pupal cuticle was slit open ventrally using the tip of a #5 forceps and the legs were cut from the thorax using fine scissors. Legs trapped in the pupal cuticle were pulled free using the forceps. Legs were transferred to 1x PBS in a 1.5 mL microcentrifuge tube and briefly centrifuged at 2,000 x g in a microcentrifuge. Buffer was removed using a 200 µL pipette tip. Note that legs mostly float on top of the buffer, so care must be taken that they stick to the wall of the microcentrifuge tube instead of the pipette tip when removing the PBS. Legs were resuspended in 30 µL RNA isolation reagent (Method 1) and ground with a blue pestle. 70 µL RNA isolation reagent (Method 1) was added to bring the samples to 100 µL. Samples were then processed as above for Method 1.

For mRNA-Seq experiments, jump muscle was dissected from 150-180 1 d adults. Adult flies were dissected according to the protocol in the text through Step 3.7, resulting in a pile of thorax hemisections. To isolate the jump muscle, make a single cut with fine scissors in the dorsal-ventral orientation in the middle of the dorsal longitudinal IFMs. This cut allows access to the jump muscle behind the IFMs. The jump muscle attaches just above the second leg in the ventral part of the thorax, and along the dorsal part of the thorax behind the IFMs, so is orientated like the dorsal-ventral IFMs (by contrast to the dorsal-longitudinal IFMs that run the length of the thorax from anterior to posterior). Then cut in the anterior-posterior plane (with the tips of the fine scissors inserted nearly to the cuticle) once at the top (dorsal part) of the thorax and once at the bottom (ventral part) above the second leg. The jump muscle can then be removed from the thorax using a #5 forceps. This dissection is difficult, as it is performed without seeing the jump muscle but knowing its location, and requires extensive training. An alternative (but slower) approach is to proceed through Step 3.9 in the protocol, in other words to completely remove the IFMs to gain access to the jump muscle below. Then use a cut in the anterior-posterior plane at the top (dorsal) of the thorax and a cut at the bottom (ventral) of the thorax above the second leg to release the now-visible jump muscle from its attachments. The jump muscle can then be removed from the thorax using a #5 forceps. Practicing with a fluorescent label, for example *Act79B*-GAL4 or *Mef2*-GAL4 driving a GFP reporter, can help visualize the jump muscle to learn its structure and attachment sites. Dissected jump muscles were transferred to a 1.5 mL microcentrifuge tube and then processed as above for Method 1.

mRNA-Seq

mRNA-sequencing data used in this manuscript have been published previously[4,10] and are publicly available in NCBI's Gene Expression Omnibus (GEO) under accession numbers GSE107247 and GSE63707. Data were mapped to the *Drosophila* genome (BDGP6.80 from ENSEMBL). The raw data processing pipeline is available from Spletter *et al*.[10].

Here we performed a differential expression analysis in R either at the gene unit level (DESeq2) or at the exon level (DEXSeq) to detect differences in splicing between *bru-IR* and wildtype IFM at 72 h APF. Data were plotted in R using ggplot2[11]. Data for sarcomere proteins at 72 h APF are available in **Supplementary Table 1**. Adult data analysis and tables are available from Spletter *et al.*[4] Read counts were visualized using the UCSC Genome Browser. Splice junction counts were obtained from .bed files generated in the mapping pipeline. For our analysis of the indicated genotypes and timepoints, we first determined the total number of splice junctions using the *Mhc* Exon 34 donor. We then determined the percent of the total events corresponding to Exon 34-35, Exon 34-36 and Exon 34-37 junctions. Our data supports the Flybase annotation of three distinct splice events using the Exon 34 donor.

Mass spectrometry

We performed whole proteome mass spectrometry on 4 biological replicates for IFMs dissected from w^{1118} and $bru1^{M2}$ 1 d adults. Samples consisted of 30 flies per replicate and were prepared using a peptide preparation kit (see **Table of Materials**) following the manufacturer protocol. Label-free mass spectrometry was performed on a mass spectrometer (see **Table of Materials**). Peptides were identified using Max Quant and then analyzed using Perseus and R. Data were filtered requiring 3 of 4 replicates in one sample to have a value, and missing intensities were replaced by a single low value (intensity=20), as in multiple cases peptides are completely missing in one sample and present in the other, and are thus biologically relevant. For volcano plots we used an FDR=.05. Sarcomere proteins were identified using a previously compiled list[10]. Data are available in **Supplementary Table 2**.

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