HUMAN NEUROBLASTOMA (SH-SY5Y) CELL CULTURE AND DIFFERENTIATION IN 3-D COLLAGEN HYDROGELS FOR CELL-BASED BIOSENSING

by

ANU DESAI

(Under Direction the of William Kisaalita)

ABSTRACT

Cell-based three-dimensional systems are desirable in the field of high throughput screening assays due to their similarity to *in vivo* environment. We have used SH-SY5Y neuroblastoma cells cultured in 3-D collagen hydrogel as a cell-based biosensor. There was no statistically significant difference in SH-SY5Y proliferation rate between 2-D monolayer and 3-D collagen culture formats. The cells exhibited a heterogeneous resting membrane potential distribution. In response to high K^+ (50 mM) depolarization, 3-D cells were less responsive in comparison to 2-D cells, supporting the hypothesis that 2-D cell calcium dynamics may be exaggerated. L-Type Ca^{2+} expression levels based on staining results were inconsistent with Bay K 8644 channel activation results, suggesting that, either the majority of the channels were non-functional or could not be activated by Bay K 8644. In conclusion, the results confirm the differences in cellular function when cultured using a 2-D versus a 3-D matrix.

INDEX WORDS: collagen hydrogel, SH-SY5Y, voltage gated calcium channels, resting membrane potential, confocal microscopy

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TABLE OF CONTENTS

Page

CHAPTER 1

INTRODUCTION

The completion of human genome sequencing has provided ample gene targets for the pharmaceutical industry. In addition, it is now possible to generate candidate drugs for screening faster than ever using combinatorial chemistry (Durick and Negulescu, 2001). The methods available to test these potential compounds include radioactive flux assays, binding assays, fluorescent dye assays, etc. (Gonzalez et al., 1999). However, the high throughput methods available for testing these potential drugs provide limited information. It would be desirable to screen the compounds in a whole cell assay to understand the effect on the overall cellular functions; the information obtained from a whole cell assay would be more biologically relevant (Durick and Negulescu, 2001).

Cell-based assays are a "good compromise between pure in vitro systems and whole organisms" (Durick and Negulescu, 2001). Cell-based screenings provide more detailed information than do traditional assays based on isolated enzymes or antibodies. Also, a whole cell assay provides the cell with all the necessary components-enzymes, receptors, antibodies, ions, etc. "Whole tissues or cells are a source of a large quantity of enzymes in their natural environment where enzymatic pathways are already optimized and all cofactors, substrates, and reactants are available" (O'Connor et al., 2000). The enzymes and cofactors do not need purification, which can contribute to instability. Thus, the functional information obtained from a cell-based assay provides more detailed and physiologically relevant information. Whole cell assays have been applied to high throughput screenings, functional genomics, and validation of potential drugs (Durick and Negulescu, 2001).

Until recently, cell-based assays have been carried out in two-dimensional (2-D) substrate, i.e. flat surface of a 96 well plate. However, numerous research publications have indicated the differences in cell behavior when plated on a 2-D surface as opposed to a three-dimensional (3-D) surface. Cells grown in 2-D systems are forced to express different morphology due to the fact that 3-D interactions with their surroundings are not available (Friedl and Brocker, 2000; Cukierman et al., 2001; Mao and Kisaalita, 2004; O'Connor et al., 2000; Walsh and Parks, 2002). It has also been suggested that 2-D cell behavior might be an "exaggerated precursor" of in vivo behavior (Cukierman et al., 2001).

Three-dimensional matrices offer a good solution to the problems posed above with 2-D matrices. Hydrogels, in particular, have been used widely because they provide a stable, fluid environment to the cells, they are transparent and fluorescence dye based techniques can be easily applied to study cell behavior (O'Connor et al., 2000). Many types of polymers have been used to make 3-D hydrogels, however, collagen is the most attractive option. Collagen is the most abundant connective tissue material in mammals (Alberts et al., 2002). It has been widely used in studies of cellular behavior for it's biocompatibility, low immunogenicity, and non-toxicity (Ho et al., 2001). Collagen hydrogels allow cells to grow in different directions as opposed to the conventional two-dimensional monolayer substrates. And, cell shape can play an important part in cell motility, proliferation, and adhesion. Also, collagen hydrogels have been proposed as effective biosensors for testing various cellular responses to environmental toxins, biological and chemical warfare agents, etc. (O'Connor et al., 2000). Thus, in this study, we chose to use collagen hydrogel to immobilize SH-SY5Y cells in a 3-D environment.

Previous research in our lab involved studying of IMR-32 cell behavior in collagen hydrogel in regards to cellular morphology, resting membrane potential development, and calcium dynamics. However, this study raised concerns regarding the feasibility of using 3-D collagen hydrogel as a cell-based biosensor. IMR-32 cells failed to develop a resting membrane potential and comparative proliferation results were not conclusive. We wanted to extend this study in a cell line that develops a resting membrane potential, namely SH-SY5Y. The objectives of this study were:

1. To compare cell proliferation in 2-D and 3-D cultures.
2. To study resting membrane potential development of cells in 2-D and 3-D cultures.
3. To study calcium dynamics of cells in 2-D and 3-D cultures in response to K^+-induced depolarization.

The findings of this research will have a significant impact in the development of cell-based assay technology with applications in accelerated drug discovery. Ultimately, this will aid in disease prevention.

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CHAPTER 2

LITERATURE REVIEW

3-D VERSUS 2-D

Extracellular matrix (ECM) is the three-dimensional, extracellular space of a tissue, organized by various proteins and polysaccharides into a complex network that regulates cell growth, migration, morphology, and function. Recent studies have shown that the 3-D structure of the ECM provides "complex information" which is missing when cells are grown in merely 2-D substrates (Friedl and Brocker, 2000; Cukierman et al., 2001; Mao & Kisaalita, 2004; O'Connor et al., 2000; Walsh & Parks, 2002).

O'Connor et al. (2000) evaluated the growth of neural precursor cells in a 3-D collagen gel. There was a high viability rate, cell proliferation, differentiation into neurons and astrocytes, and a higher intracellular Ca^{2+} concentration than 2-D surface in response to the neurotransmitter, glutamate. Hayman et al. (2004) concluded that 3-D culture environment significantly changed the differentiation behavior of human neural precursors than 2-D cultures. Walsh and Parks (2002) showed that cardiac cell (myocyte) shape influences the properties of voltage gated ion channels. The Ca^{2+} current values obtained from cells grown on a collagen membrane produced currents comparable to that seen in freshly removed rat myocytes; also, the cell shape was comparable to that seen *in vivo* (Walsh and Parks, 2002). Cukierman et al. (2001) also compared cell adhesion structure, localization, and function of cells in a 3-D collagen matrix to that in a 2D substrate. The conclusion was that the 3-D cell-collagen matrix adhesions are distinctive compared to the 2-D adhesions and that 2-D results may be "exaggerated precursors"

of the *in vivo* adhesions with the extracellular matrix (Cukierman et al., 2001). Collectively, these studies present strong evidence that cells grown in a 3-D collagen environment may produce results predictive of *in vivo* cellular responses.

3-D STRUCTURES

There are many different types of 3-D structures used in research today. Among these are microgravity bioreactors, electrospun nanofibers, micro- and nano-structured substrata, and natural and synthetic scaffolds. Microgravity bioreactors have been used to grow and differentiate colon cancer cells (Jessup et al., 1993), ovarian tumor cells (Becker et al., 1993), skeletal tissue (Freed et al., 1999), etc. The bioreactor simulates microgravity through randomization of gravitational vectors (Pellis et al., 1997; Tsao et al., 1992). However, the system is not suitable for high throughput screening, as it cannot be scaled down easily. Electrospinning is the process where electric field is used to deposit the polymer fibers on a substrate. The fiber diameter can range from 20 nm to 1 μm (Matthews et al., 2002). Micro- and nano-structured substrata are achieved by deep reactive ion etching of silicon wafers to create channels with cell adhesive walls (Powers et al., 2002). These structures allow control of neurite growth via the formation of metal oxide microgrooves of differing depth to width ratios. But most research has relied on low aspect ratio structures, which are similar to 2-D planar microstructures. However, more recently high aspect studies have appeared in the literature (Hayman et al., 2004). Natural and synthetic scaffolds have been used to study cells in 3-D environment. Among the synthetic scaffolds are polyurethanes, poly (ethylene oxide), poly (vinyl alcohol), and polyethers. Among the natural polymers are alginate, agar, gelatin, and

collagen. These scaffolds are useful in drug delivery research and in tissue grafting (Sherwood et al., 2002).

COLLAGEN HYDROGELS

Three-dimensional hydrogels have been used to immobilize cells as they offer a safe and stable environment much like the 3-D extracellular matrix. Of particular interest is collagen, which accounts for 30% of total proteins in vertebrates and is the most abundant connective tissue material (Friess, 1997). Collagen has been widely used in studies of cellular behavior for it's high porosity, biocompatibility, low immunogenicity, and non-toxicity (Ho et al., 2001). More significantly, collagen gels "induced morphological changes in fibroblasts that partially mimicked connective tissue cells in vivo" (Cukierman et al., 2002). Friedl and Brocker (2000) state that the morphology and distribution pattern of fibers in 3-D collagen matrices closely resemble those observed in the soft tissues, skin, and lymph nodes. In order to study neuronal cells, it is desirable that they are cultured on substrates with high porosity so that the cell can extend neurites and nutrients as well as wastes can diffuse in and out of the structure at acceptable rates (O'Connor et al., 2000a). Neural cell proliferation in collagen hydrogels has been studied to show that collagen matrices support formation of neurites and that these can sustain the cells for a period of several weeks (O'Connor et al., 2000a). Thus, in this study, collagen hydrogels were chosen over other types to provide a more natural, stable, and safe environment for cell growth and differentiation.

SH-SY5Y NEUROBLASTOMA CELLS

Many different neuroblastoma cell lines have been studied because they posses the ability to differentiate into various cell types much like stem cells. And, this ability could be significant

for the development of a renewable cell source for cell-based assays (O'Connor et al., 2000a). SH-SY5Y cells were used in this study that have been subcloned from a neuroblastoma cell line. Neuroblastoma is a tumor that originates in the neural crest cells among young children. Neuroblastoma derived cell lines have been used for neurotoxicity testing, viral research, and cancer research. These cells also retain the ability to differentiate into the various neural components similar to neural crest cells (Shastry et al., 2000). Neural crest cells differentiate into neurons and glial cells of the peripheral nervous system, as well as a variety of other cell types (Alberts et al., 2002). SH-SY-5Y cells grow as neuroblasts i.e. they have a small, round shaped cell body and develop many neurites (Ciccarone et al., 1989). These cells exhibit biological and chemical properties of sympathetic ganglionic cells (Toselli et al., 1995). Patch clamp studies have been conducted to show the development of functional Ca^{2+} channels in SH-SY-5Y cells upon differentiation (Toselli et al., 1995; Reuveny et al., 1993; Morton et al., 1992; Reeve et al., 1995). And, SH-SY-5Y cell studies also indicate that development of a resting membrane potential as well as expression of calcium ion channels is dependent on cellular differentiation (Toselli et al., 1995). SH-SY-5Y and other neuroblastoma cell lines have been important to the studies of neurotoxins, anticancer and antimalarial drugs, and to the understanding of viral-host interactions (Shastry et al., 2000).

RESTING MEMBRANE POTENTIAL MEASUREMENT

The resting membrane potential of a cell is the equilibrium state in which there is no flow of electric current across the membranes whereas a membrane potential arises due to an accumulation of excess positive charge over negative charge on one side of the membrane than the other (Alberts et al., 2002). Confocal microscopy can be used to measure the membrane

potential of a cell without disturbing the cell as is the case in microelectrode-based methods. Fluorescence indicators that are membrane permeable, potentiometric dyes can be used to correlate quantitative fluorescence changes to membrane potential changes (Loew et al., 1998). These dyes distribute across the plasma membrane in a potential based manner and so the Nernst equation can be used to determine the exact value of the resting membrane potential (Ehrenberg et al., 1988; Loew et al., 1998).

Tetramethylrhodamine methyl ester (TMRM) has been used to study membrane potential in various cell types (Ehrenberg et al., 1988; Brasch et al., 1999) because it is a "fast" dye that redistributes across the plasma membrane quickly and also, it exhibits less non-specific binding to intracellular organelles and membranes (Loew et al., 1998). This dye has been previously used with a neuroblastoma cell line, IMR-32 to measure membrane potential in our lab (Mao and Kisaalita, 2004) in a collagen hydrogel. SH-SY5Y has been reported to develop a membrane potential of -55 mV in a patch-clamp study (Sonnier et al., 2000), however, fluorescence based measurement of resting membrane potential is a less invasive and much easier method to perform with a confocal microscope and it is amenable to measurement from many cells.

VOLTAGE GATED CALCIUM CHANNELS

Ca^{2+} concentration is maintained at low levels in the intracellular space but at high levels in the extracellular space. This allows Ca^{2+} to function as a messenger for a variety of cell processes. Ca^{2+} causes contraction of muscle cells; it triggers the release of neurotransmitters such as acetylcholine in nerve cells, whereas in egg cells a high Ca^{2+} concentration triggers embryonic development. Also, Ca^{2+} is involved in other functions such as protein kinase activation, regulation of transcription, cell shape, and motility (Berridge et al., 1998).

Many ion channels open and close based on the voltage difference across the membranes and they are called voltage gated cation channels, these include voltage gated Ca^{2+} channels, Na^{+} channels, and K^{+} channels. Voltage-gated ion channels are activated in response to a depolarization, where the membrane potential becomes less negative than normal, which is usually -60 mV (Alberts et al., 2002) and open Ca^{2+} channels which cause release of neurotransmitters and hormones and entry of other ions, ultimately resulting in a recovered membrane potential (Alberts et al., 2002; Denyer et al., 1998). Thus, voltage gated calcium channels have been the focus of many resting membrane potential studies. Moreover, Ca^{2+} ion channel dysfunction has been linked to diseases such as Alzheimer's, hypertension, angina, arrhythmia, etc. (Denyer et al., 1998).

There are five subtypes of calcium channels-L, N, T, P/Q, and R in vertebrates as listed in Table 1 (Bertil, 2001; Denyer et al., 1998).

Table 1: Voltage Gated Calcium Channels

	HVA		**LVA**
Channel Type	L	N, P/Q, R	T
Tissue Distribution	Neuronal / Cardiac	Neuronal	Cardiac
Activation Range	Positive to -30 mV	Positive to -20 mV	Positive to -70 mV

In vitro differentiated SH-SY5Y cells do not develop T-type channels and L-Type channels are the majority of high voltage activated (HVA) activated channels expressed (Toselli et al., 1995). N-Type channels have been studied very well in differentiated SH-SY5Y cells (Reuveny et al., 1993; Seward and Henderson, 1990; Morton et al., 1992).

A variety of ω-conotoxins that are known blockers have been used previously to study L-Type and N-Type channels, however, recently, these toxins have become unavailable. Other options include fluorescence-tagged antibodies or channel activators/inactivators that are labeled

with a fluorophore. Verapamil is a compound that selectively blocks L-Type calcium channels and is available in a BODIPY FL- conjugated form. In order to stain N-Type channels, anti-calcium channel (α_{1B} subunit) antibody is readily available and can be used with a fluorescence molecule conjugated to a secondary antibody.

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CHAPTER 3

HUMAN NEUROBLASTOMA (SH-SY5Y) CELL CULTURE AND DIFFERENTIATION IN 3-D COLLAGEN HYDROGELS FOR CELL-BASED BIOSENSING[1]

[1]Anu Desai, William Kisaalita, Charles Keith, and Z. Z. Wu. To Be Submitted to Biosensors and Bioelectronics

ABSTRACT

Cell-based three-dimensional systems are desirable in the field of high throughput screening assays due to their similarity to *in vivo* environment. We have used SH-SY5Y human neuroblastoma cells cultured in 3-D collagen hydrogel, to show that confocal microscopy and immunofluorescence staining can serve as a functional, cell-based biosensor. Our results show differences between 2-D and 3-D resting membrane potential development profile upon differentiation. There was no statistically significant difference in SH-SY5Y proliferation rate between 2-D monolayer and 3-D collagen culture formats. A large percentage of cells (2-D, 91.30%, and 3-D, 84.93%) did not develop resting membrane potential value equal to or lower than -40 mV; instead cells exhibited a heterogeneous resting membrane potential distribution. In response to high K^+ (50 mM) depolarization, 3-D cells were less responsive, with respect to increase in intracellular Ca^{2+}, in comparison to 2-D cells, supporting the hypothesis that 2-D cell calcium dynamics may be exaggerated. L-Type Ca^{2+} expression levels based on staining results was inconsistent with Bay K 8644 channel activation results, strongly suggesting that, either the majority of the channels were non-functional or could not be activated by Bay K 8644. In general, the results in this study confirm the differences in cellular function when cultured using a 2-D versus a 3-D matrix.

Key words: collagen hydrogel, SH-SY5Y, voltage gated calcium channels, resting membrane potential, confocal microscopy

INTRODUCTION

Voltage gated ion channels are emerging as essential drug targets in the pharmaceutical industry due to their impact on diseases of the central nervous and cardiovascular systems (Denyer et al., 1998; Gonzalez et al., 1999). With the current advance in genomics and combinatorial chemistry, it is now possible to screen thousands of compounds against voltage gated ion channel targets in a 96- or 384- well plate in a short time (Denyer et al., 1998). However, in vitro biochemical assays target specific enzymes or proteins associated with the ion channel and as a result the "hits" generated from such screens often fail when tested in the natural and complex environment of an organism (O'Connor et al., 2000a; Durick and Negulescu, 2001). Thus, in order to produce physiologically meaningful results, it is essential to study the ion channels in living cells (Gonzalez et al., 1999; O'Connor et al., 2000a; Durick and Negulescu, 2001).

Cell-based biosensors prove advantageous because they provide a cell with all of the necessary biological interactions that are available to a cell in its *in vivo* environment. The biosensors can be utilized to study biological and chemical warfare agents, environmental toxins, or to detect possible deleterious effects of a drug before clinical trials (O'Connor et al., 2000a; Durick and Negulescu, 2001). Many cell-based biosensors in use today are based on a flat, two-dimensional glass or plastic surface that may not produce results characteristic of *in vivo* (Cukierman et al., 2002; O'Connor et al., 2000a). Extracellular matrix (ECM) is the three-dimensional substrata, which provides a direct interaction between cells via integrin receptors *in vivo*. These ECM mediated receptor cell interactions are responsible for the regulation of cell proliferation, migration, and adhesion (Friedl and Brocker, 2000). Recent studies have shown that performing cell-based assays in three-dimensional substrates may provide physiologically

relevant results (Cukierman et al., 2001; Friedl and Brocker, 2000). Thus, many three dimensional substrates are being considered to address the need to study cell behavior in an "in vivo" environment. Examples of 3-D substrates include microgravity bioreactors (Jessup et al., 1993), electrospun nanofibers (Matthews et al., 2002), micro- and nano-structured substrata (Powers et al., 2002), and natural and synthetic scaffolds (Sherwood et al., 2002; Deng et al., 2002).

Collagen hydrogel has been used in various three-dimensional cell behavior studies (Cukierman et al., 2001; O'Connor et al., 2000b). In a previous paper, Mao and Kisaalita (2004a) studied voltage gated calcium channel (VGCC) properties of the neuroblastoma cell line, IMR-32 in a 3-D collagen hydrogel, and concluded that the optical and mechanical properties of collagen hydrogel (0.5-1.0 mg/ml collagen) are suitable for a cell-based biosensor. Furthermore, Mao and Kisaalita (2004a) showed a significant difference in calcium response to high K^+ depolarization between cells grown in 2-D flat dishes (monolayer) versus 3-D hydrogel. Day 13 cells (differentiated) in 3-D collagen gel showed a calcium response, however, Day 2 cells (undifferentiated) did not. Unfortunately, IMR-32 cells do not develop a resting membrane potential (V_m) characteristic of nerve cells (Rao and Kisaalita, 2001). Also, Mao and Kisaalita's (2004a) comparative proliferation results were not conclusive. The purpose of this paper is to extend the study to a human neuroblastoma cell line that develops a neuronal-like resting membrane potential, and to compare cellular proliferation between the traditional 2-D and 3-D collagen hydrogel.

MATERIALS AND METHODS

2.1. *Cell line and cell culture*

SH-SY5Y cell line was chosen because it has been shown to develop a more characteristic resting membrane potential (Sonnier et al., 2000) and to possess voltage gated calcium channels upon differentiation (Morton et al., 1992; Reuveny and Narahashi, 1993; Seward and Henderson, 1990; Reeve et al., 1995). Also, it has a short doubling time and it is capable of differentiating into different neuron-like subtypes. SH-SY5Y cell line was cultured in 75-cm^2 tissue culture flasks (Costar, Cambridge, MA) with 30 ml growth medium at 37^0C in a 10% CO^2 humidified atmosphere. Growth medium was made with Minimum Essential Medium with 10% heat inactivated fetal bovine serum (FBS), 2.2 g/l sodium bicarbonate, and 2 mM L-glutamine (Mao and Kisaalita, 2004a). Growth medium was replaced every other day and cells were passed at 75% confluence.

2-D culture. For monolayer or 2-D culture, cells were plated on No 1.5 glass coverslip embedded in a 35-mm petri dish (MatTek Co., Ashland, MA) at a density of 5 x 10^5 cells per plate. The cells were allowed to grow for two days, and then growth medium was replaced with differentiation medium made of 5% FBS, 2.2 g/l sodium bicarbonate, 2 mM L-glutamine, and 200 nM TPA or 1 mM dibutyryl cAMP and 2.5 µM 5-bromodoexyuridine (Mao and Kisaalita, 2004a). The differentiation medium was changed daily.

3-D collagen-cell culture. 12 mg collagen (Rat tail tendon, Type I, Sigma, St. Louis, MO) was dissolved in 2.5 ml 0.2% (v/v) acetic acid and sterilized under UV overnight in a biosafety hood. The next day, 2.5 ml 2X PBS, 35 µl 1M NaOH, and 7 ml 1X PBS was added to the solution to obtain a final collagen solution of 1 mg/ml at pH 7.4, which was stored at 4^oC to avoid gel formation (Mao and Kisaalita, 2004a). SH-SY5Y cells at a density of 1.2 x 10^6 cells

/ml were mixed with 1 ml collagen solution and spread on a 35-mm petri dish with an embedded No 1.5 glass coverslip. The plates were incubated at 37^{o}C for 2 hours to allow gel formation, and then 2 ml growth media was added to the plates. The growth medium was replaced with differentiation medium after two days and replaced daily thereafter.

2.2. Proliferation

Cell proliferation was measured in both 2-D and 3-D over 72 hours. For 2-D cultures, 500,000 cells were plated in 3 wells each of a 6-well plate and 3 ml growth media was added to each well. Cells were allowed to grow for 24 hours after which they were dislodged mechanically, centrifuged, and re-suspended in growth media. Cells were counted using a hemocytometer. This procedure was followed after 48 hours and 72 hours. For 3-D cultures, 1.2 x 10^6 cells were plated in 35 mm petri plates each according to the procedure described above for 3-D cultures. Cells were released using 3 mg of collagenase Type I (Sigma, St. Louis, MO) dissolved in 1 ml of DMEM. Cells were counted as described above and data was fitted to the growth curve below (equation 1):

$$Y = A * e^{-kt} \qquad \text{equation (1)}$$

where k is the growth rate, A is the number of cells at the start of the experiment, Y is the number of cells at time, t.

2.3. Resting Membrane Potential (V_m) Development

In order to determine if SH-SY5Y cells develop a negative resting membrane potential, preliminary experiments with 1X oxonol dye, $DiBAC_4$ (3) diluted from a 10X stock concentration (0.5 mg/ml of DMSO) were carried out using the Flexstation (Molecular Devices, Sunnyvale, CA). Cells were plated in 24 well plates in both 2-D and 3-D cultures and were loaded with the oxonol dye at Days 2, 4, 8, and 12 of differentiation following a procedure

published by Kisaalita and Bowen (1997). Oxonol is a negatively charged dye that undergoes a resting membrane potential-dependent distribution between the cytoplasm and the extracellular medium.

The confocal microscopy method used to determine resting membrane potential was previously described by Mao and Kisaalita (2004b) in detail. Briefly, the potentiometric fluorescent dye, Tetramethylrhodamine methyl ester (TMRM, Molecular Probes, Eugene, OR) was used. It distributes across the plasma membrane in a membrane potential dependent manner. The dye binds in a non-specific manner, which provides better visualization of cellular components. Day 2 and Day 8 monolayer cells were washed with 2 ml HEPES buffered saline (HBS) twice and incubated with 2 ml HBS containing 0.5 µM TMRM for 20 min at 37^{o}C in a humidified incubator maintained at 10% CO_2. On days 2 and 8, cells embedded in collagen hydrogel were loaded with TMRM for 40 min. Cells were excited with 543 nm Green HeNe laser (PCM 2000, Nikon) and the emission was captured through a 565 nm long-pass filter by a photomultiplier detector. SimplePCI software (Compix Inc. Cranberry Township, PA) was used to capture and store images.

2.3. Calcium Imaging

A membrane permeable dye, Calcium Green-1, Acetoxymethyl Ester (AM) (Molecular Probes, Eugene, OR) was used to visualize calcium influx into single cells upon depolarization with high K^+ buffer. Monolayer cells on days 2 and 8 were washed with HBS and loaded with 5 µM calcium green-1 in 1 ml HBS containing 3% heat inactivated FBS and 0.02% Pluronic F-127. The plates were incubated at 37^{o}C for 1 hour. Cells were washed with HBS twice and allowed to de-esterify for 1 hour in a 37^{o}C incubator. On days 2 and day 8, collagen- embedded cells were loaded with a high dye concentration, 120 µM and allowed to incubate for 5 hours.

Calcium Green-1 was excited with 488 nm argon laser and the emission was captured through a 515 nm Long Pass filter. Cells were depolarized with 100µl of high K^+ buffer at a final concentration of 50 mM K^+. Change in calcium influx was recorded continuously.

The dihydropyridine agonist, Bay K 8644 (5-25 µM), was used to induce the opening of L-Type of VGCC on Day 2 and Day 8 monolayer cells as well as Day 8 3-D cells. The calcium influx was recorded as described above and the number of cells with VGCC activation in both monolayer and 3-D cultures were compared.

2.4. Immunofluorescence

L-Type channels were stained with BODIPY-FL verapamil (B7431, Molecular Probes). N-Type channels were stained with anti-calcium channel (a_{1B} subunit) antibody (C1478, Sigma) and detected by Alexa Fluor 488-conjugated chicken anti-rabbit antibody. The procedure used for both monolayer and collagen entrapped cells has been outlined in detail elsewhere (Nakamura et al., 2003) and is briefly described below.

N-Type Channels: Briefly, Day 2, Day 8, and Day 13 cells for both monolayer and 3-D cultures were fixed with 4% formaldehyde for 30 minutes at room temperature. Cells were allowed to air dry and 1% Triton X-100 was added for 30 minutes. Cells were washed with PBS and incubated in PBS/1% BSA for 30 minutes. Anti-calcium channel antibody (10 µg/ml) was added to plates for N-Type staining for 1 hour. Cells were washed with 0.1% Tween 20. Cells were incubated with Alexa Fluor 488 conjugated antibody (10 µg/ml) for 1 hour and washed again with 0.1% Tween 20. Numerous images of stained cell preparations were captured with the Nikon PCM 2000 confocal imaging system. Samples were excited with the argon laser excitation and gray levels were measure for all the cells in view using SimplePCI software (Compix Inc. Cranberry Township, PA).

L-Type Channels: The above described procedure was followed for staining L-Type channels with the exception that cells were loaded with BODIPY-FL verapamil (10 µg/mL) after the incubation with PBS/1% BSA. Cells were then washed with 0.1% Tween 20 and imaged as described above. In order to calculate the number of cells with channels, a procedure applied to flow cytometry data was adopted (Traill et al., 1986). The means of gray level for each set of data were calculated and cells with grey levels in the 75th percentile or higher were scored as having channels. Although arbitrary, the choice of 75^{th} percentile for comparative purposes has proved very sensitive when only small differences exist among cells (Traill et al., 1986). The total number of cells possessing each type of channel was determined for Days 2, 8, and 13 and statistical comparisons were made for both 2-D and 3-D cultures.

RESULTS AND DISCUSSION

3.1 Proliferation

Cell proliferation rate was measured in both 2-D and 3-D cultures up to 72 hours after plating. Figure 1 shows plots of 2-D and 3-D cell numbers. The value of the growth rate, k, for 2-D was 0.0181 ± 0.0034 ($k \pm$ standard error), resulting in a doubling time of 38.3 hours; in 3-D, the value of k was 0.0193 ± 0.0036 ($k \pm$ standard error), resulting in a doubling time of 35.9 hours. No statistically significant difference was found between the two doubling times ($p<=0.4175$). Although many studies support the conclusion that collagen increases the rate of proliferation (Kleinman et al., 1981; Ignatius et al., 2005), others have suggested that collagen decreases the rate of proliferation (Senoo et al., 1996). It has also been suggested that whether collagen increases cell proliferation depends on the particular cell type (Klienman et al., 1981).

3.2 Resting membrane potential development

TMRM is a potentiometric dye that redistributes across the plasma membrane in a potential based manner (Ehrenberg et al. 1988). The Nernst equation can be used to determine the resting membrane potential based on the difference between inside and outside fluorescent dye concentration (Loew, 1998). Mao and Kisaalita (2004a) used a modified form of the Nernst equation [equation (2)] that corrected for background values, error in measuring extremely low extracellular dye concentrations, and non-specific binding of the dye.

$$V_m = -58 \log_{10} \left[\frac{\left(F_{in}^{10\%} - B^{10\%}\right) \times \left(F_{Out\_free}^{100\%} - B^{100\%}\right)}{\left(F_{out}^{100\%} - B^{100\%}\right) \times \left(F_{in\_free}^{10\%} - B^{10\%}\right)} \right] \quad (2)$$

where $F^{10\%}_{in}$ is the intracellular fluorescence intensity at 10% power, $B^{10\%}$ is the background value at 10% power, $B^{100\%}$ is the background value at 100% power, $F^{100\%}_{out\_free}$ is the extracellular fluorescence correction factor at 100% power, $F^{100\%}_{out}$ is the extracellular fluorescence, and $F^{10\%}_{in\_free}$ is the intracellular fluorescence correction factor at 10% power.

Figure 2 shows that the fluorescence intensity decreased from Day 2 to Day 4 ($p<=0.0122$) as cells underwent differentiation. Since oxonol is a negatively charged dye, the amount of dye that is able to enter the cells decreases as the cells develop a negative resting membrane potential upon differentiation. This data clearly indicated that SH-SY5Y cells develop a negative resting membrane potential. We further used TMRM because unlike oxonol, TMRM allows measurement from single cells. The V_m histograms for Day 2 and Day 8 for both 2-D and 3-D are shown in Figures 3 & 4. On Day 2, the majority of cells in both 2-D and 3-D are in the range +20 to –20 mV. However, in 3-D cultures, the percentage of cells in the range -40 to -60 mV increased on Day 8 (9%) in comparison to Day 2 (5.6%). In contrast, 2-D cultures show a decrease on Day 8 (5.4%) from Day 2 (9.9%). A large percentage of cells examined did

not develop a resting membrane potential of -55 mV, a figure reported by Sonnier et al. (2000). In contrast, the cells in our study exhibited a highly heterogeneous V_m distribution. The V_m results reported by Sonnier et al. (2000) were based on 10 cells and the measurements were conducted by the patch clamp technique. It is possible that cell selection was based on a morphology known to yield high resting membrane potentials. To ascertain the accuracy of our technique, we tested the relationship of dye concentration to gray levels by successively diluting TMRM stock solution (0.5 mM in 95% ethanol) to concentrations of 100000, 10000, 2000, 1000, 500, 250, 50, 5 and 0 nM. The average gray level was measured over the whole image. A corrected gray level reading was achieved by subtracting the background reading and data was fitted to a linear curve. This confirmed that the TMRM dye concentrations were linearly proportional to corrected gray level readings over the dye concentration range of 0 ~ 10000 nM ($R^2 = 0.9962$).

3.3 Calcium Dynamics

Ca^{2+} ions function as a second messenger for a variety of cell processes. Ca^{2+} causes contraction of muscle cells, neurotransmitters release, protein kinase activation, regulation of transcription, cell shape, and motility (Berridge et al., 1998). Ca^{2+} ion channel dysfunction has been linked to diseases such as Alzheimer's, hypertension, angina, arrhythmia, etc. (Denyer et al., 1998). In order to establish 3-D cell preparation in collagen hydrogel as a functional biosensor we investigated the activity of voltage gated calcium channels.

Cells were depolarized with 50 mM high K^+ buffer on Day 2 and Day 8 of differentiation. For a cell at – 50 mV, the high K^+ buffer resulted in a depolarization to + 33.9 mV, well in the range of opening L and N Type channels. Figure 5 shows a typical fluorescence intensity change for responsive and non-responsive cells. A cell that was considered responsive

showed a 15% or higher calcium influx from the basal calcium levels (measured by change in relative fluorescent intensity values) upon addition of high K^+ buffer. Table 1 shows the percentage of responsive cells for 2-D and 3-D cultures. The maximum percentage of responsive cells in both 2-D and 3-D was only 25% which is not surprising based on the fraction of cells that developed a V_m of -40 mV and higher on Day 8. The percentage of responsive cells in 2-D is 23% on Day 2 and 25% on Day 8, in contrast, Day 2 cells in 3-D did not show a high amount of response (13%) as compared to Day 8 (25%). This data supports the hypothesis (Mao and Kisaalita 2004a) that calcium dynamics in 2-D may be exaggerated when compared to 3-D. The reason for this difference may be due to altered expression and regulation of VGCC in 2-D versus 3-D (Walsh and Parks, 2002). The average increase in calcium influx from basal levels also revealed differences between the 2-D and 3-D systems. In 2-D cultures, on Day 2, the calcium rise was 43% whereas on Day 8 it decreased to 30.5% ($p<=0.0251$). In 3-D cultures, the average increase was the same on Day 2 (45%) and Day 8 (50.9%) ($p<=0.3978$). 2-D Day 2 calcium response was lower than 3-D Day 2 ($p<=0.0251$) and 2-D Day 8 calcium response was also lower than 3-D calcium response ($p<=0.0012$). The 3-D cultured cells responded with a higher calcium influx than 2-D cultured cells on both Day 2 and Day 8.

To further characterize the voltage gated calcium channel function in SH-SY5Y, Bay K 8644 was used to stimulate calcium release. Bay K 8644 is an agonist that selectively activates L-Type calcium channels (Reeve et al., 1995; Seward and Henderson, 1990). Table 2 shows the effect of Bay K 8644 on cells differentiated through Day 8 in 2-D and 3-D cultures. In comparison to 2-D, cells in 3-D responded better to both 5 µM (0 vs. 4.3%) and 25 µM (1.6% vs. 4.0%) of Bay K 8644. Overall, the low percentage of cells responding to Bay K 8644 confirmed that a majority of the L-Type voltage gated calcium channels in both cultures were not

functional; alternatively, it has been reported that voltage-dependent Ca^{2+} entry occurs mainly through N-Type channels (Toselli et al., 1995). In order to confirm or rule out the possibility that VGCC were present and just non-functional. were present in differentiated cells, we conducted immunofluorescence experiments. There are five subtypes of voltage gated calcium channels (VGCC) in neuronal cells, which include L, N, P/Q, R and T-types. Numerous studies have confirmed the presence of L- and N-Type calcium channels in SH-SY5Y by using specific blockers and inducers (Morton et al., 1992; Reuveny and Narahashi, 1993; Seward and Henderson, 1990). However, the presence of P/Q, R, and T- types of channels has not been documented in VGCC studies in the SH-SY5Y cell line. Therefore, in our study, we chose to immunologically stain for the L- and N-Type VGCC and the results are presented below.

3.4 L-Type And N-Type Staining

L-Type Channels: Figure 6 shows typical images of cells stained with BODIPY-FL verapamil (L-Type) on Days 2, 8, and 13 in both 2-D and 3-D cultures. As shown in Figure 7, the percentage of 2-D cells expressing L-Type channels progressively decreased from Day 2 (25.43%) to Day 8 (23.04%, $p<=0.0001$) and 21.15% (Day 13, $p<=0.0001$). In contrast, the percentage of 3-D cells expressing L-Type channels increased from 26.78% to 38.51% (Day 8, $p<=0.0001$) and 28.83% (Day 13, $p<=0.0001$). Increase in L-Type calcium channels with differentiation has been reported by others (Carbone et al., 1990, Usowicz et al., 1990, Kushmerick et al., 2001) in neuronal cells. The difference in L-Type channel development between 2-D and 3-D points to the potential significance of culture format selection for cell-based biosensors. The L-Type channel expression levels based on staining results is inconsistent with Bay K 8644 channel activation results, strongly suggesting that, either the majority of the channels were non-functional or could not be activated by Bay K 8644.

N-Type Channels: Figure 8 shows typical images of cells stained with N-Type channel antibody on Days 2, 8, and 13 in both 2-D and 3-D cultures. As shown in Figure 9, in 2-D, the percentage of cells expressing N-Type channels decreased from Day 2 (29.58%) to Day 8 (29.18%, $p<=0.0001$) and increased on Day 13 (29.32%, $p<=0.0001$) of differentiation. Although, the above differences in the means are low, significant differences were attributed to differences in cell numbers used for comparisons. In 3-D, the percentage of cells expressing N-Type channels increased from Day 2 (22.37%) to Day 8 (31.93%, $p<=0.0001$) and remained the same from Day 8 (31.93%) to Day 13 (31.84%, $p<=0.2584$). In 2-D, N-Type channel expression did not significantly change with differentiation. As with L-Type channels, N-Type channel expression with differentiation in 3-D is consistent with previous studies (Toselli et al., 1995; Passafaro et al., 1992; Uscowicz et al., 1990; Carbone et al., 1990).

Taken together, in 2-D cultures, both L-Type and N-Type channel expression decreased from Day 2 to Day 8 of differentiation. In 3-D, both types of channel expression increased with differentiation from Day 2 to Day 8. L-Type and N-Type channel expression on Day 13 for both 2-D and 3-D cultures presented inconsistent results, which has been attributed to the well-known slow increase in proportion of proliferating cells at long differentiation times.

4. CONCLUSIONS

Recent studies have shown the contrast in cell behavior when evaluated *in vivo* and *in vitro* (Stoll et al., 2002; Miller et al., 2002) and this has led to the focus on the development of cell-based biosensors in three-dimensional formats to more closely mimic the *in vivo* microenvironments. Our lab has previously studied IMR-32 cells in collagen hydrogel as a possibility for 3-D biosensor (Mao and Kisaalita, 2004a). However, the results were

inconclusive, because IMR-32 failed to develop a resting membrane potential. In this study, we have used a human neuroblastoma cell line, SH-SY5Y to extend the previous study. The results from these experiments support the following conclusions:

1. There was no statistically significant difference in SH-SY5Y proliferation rate between 2-D monolayer and 3-D collagen culture formats.
2. A large percentage of cells (2-D, 91.30%, and 3-D, 84.93%) did not develop resting membrane potential value equal to or lower than -40 mV; instead cells exhibited a heterogeneous resting membrane potential distribution.
3. In response to high K^+ (50 mM) depolarization, 3-D cells were less responsive in comparison to 2-D cells, supporting the hypothesis that 2-D cell calcium dynamics may be exaggerated.
4. L-Type expression levels based on staining results was inconsistent with Bay K 8644 channel activation results, strongly suggesting that, either the majority of the channels were non-functional or could not be activated by Bay K 8644.

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Table 1: Responsive Cells*.

	2-D (culture plates)		3-D (collagen gel)	
Number of days of culture in differentiation media	2	8	2	8
Total number of imaged cells	78	88	76	92
% of responsive cells	23	25	13	25

*A cell was considered responsive if it exhibited a 15% or higher calcium influx from the basal calcium levels (measured by change in relative fluorescent intensity values) upon addition of high K^+ buffer (50 mM)

Table 2: Intracellular calcium increase in response to Bay K 8644.

Bay K 8644 (μM)		5	25
2-D	Day 2	0.0%	2.4%
	Day 8	0.0%	1.6%
3-D	Day 8	4.3%	4.0%

LIST OF FIGURES

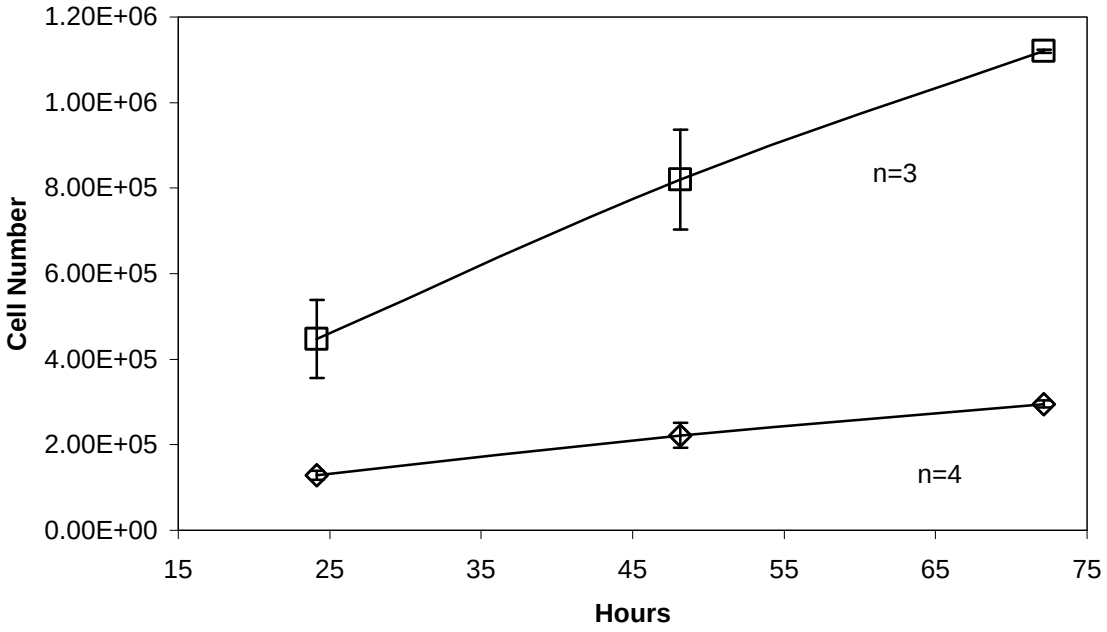
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Figure 1

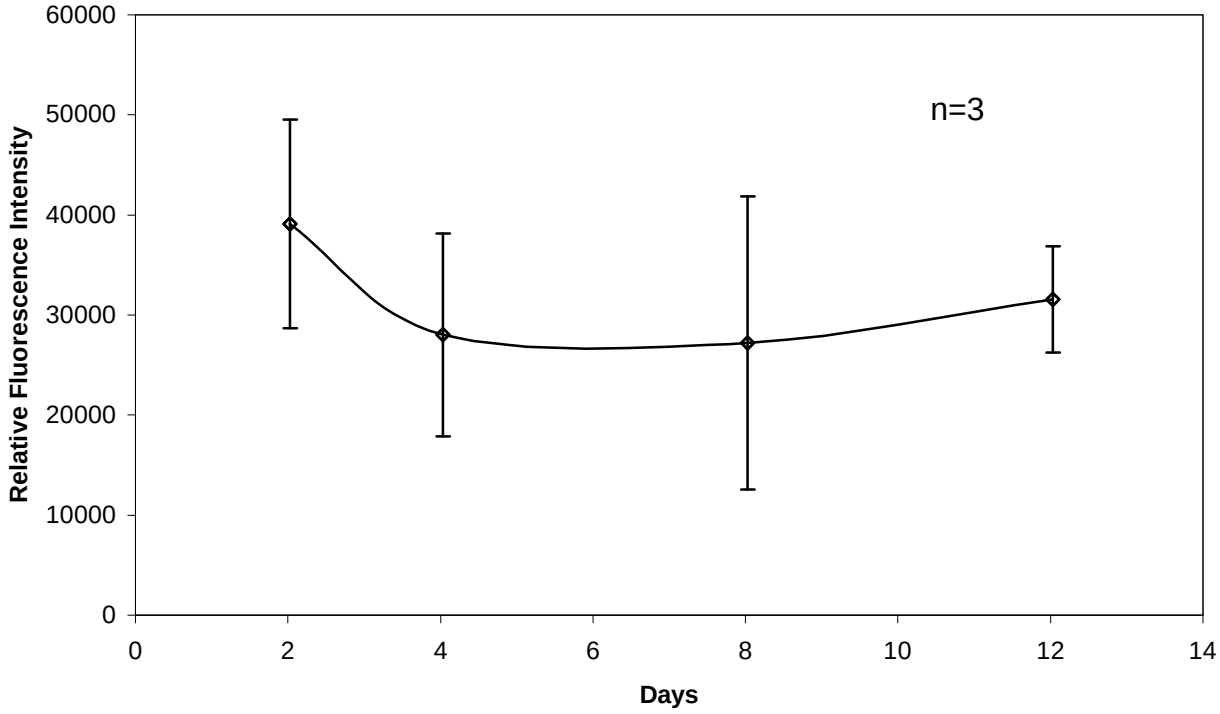
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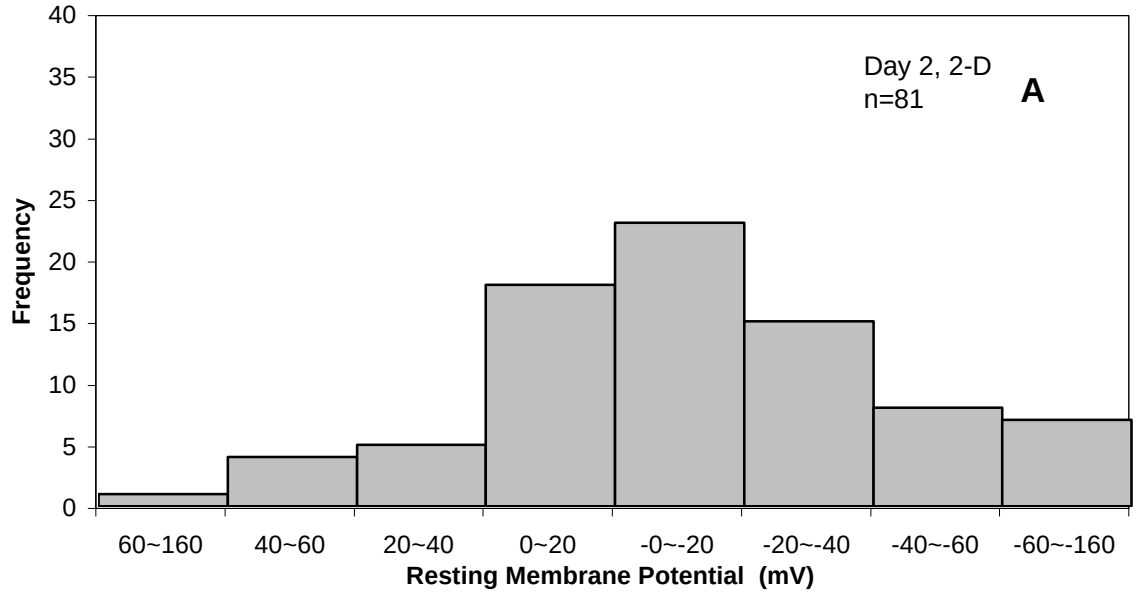
Figure 2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0
5
10
15
20
25
30
35
40
60~160
40~60
20~40
0~20
-0~-20
-20~-40
-40~-60
-60~-160
Resting Membrane Potential (mV)

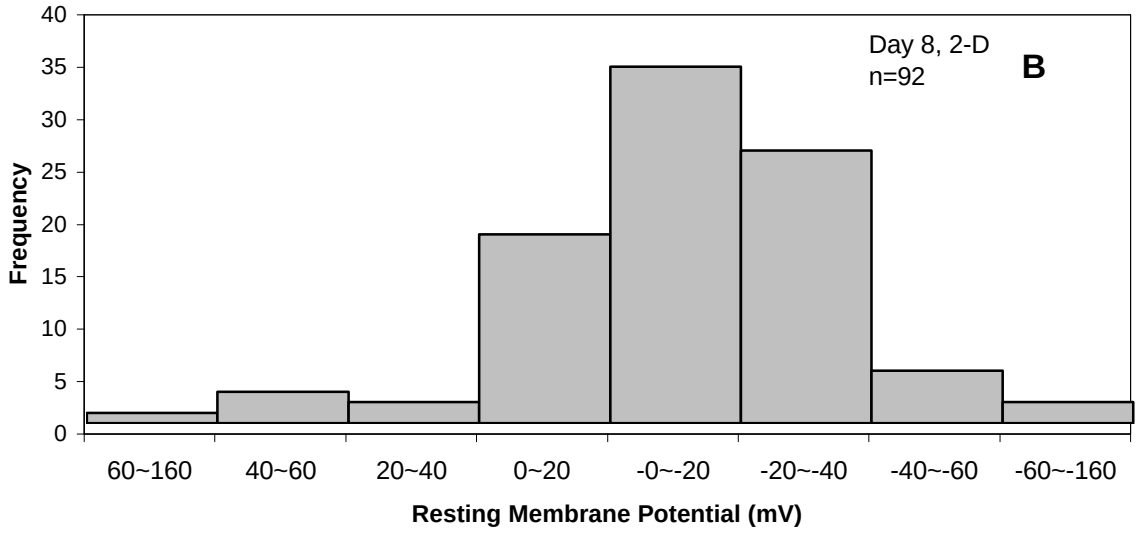
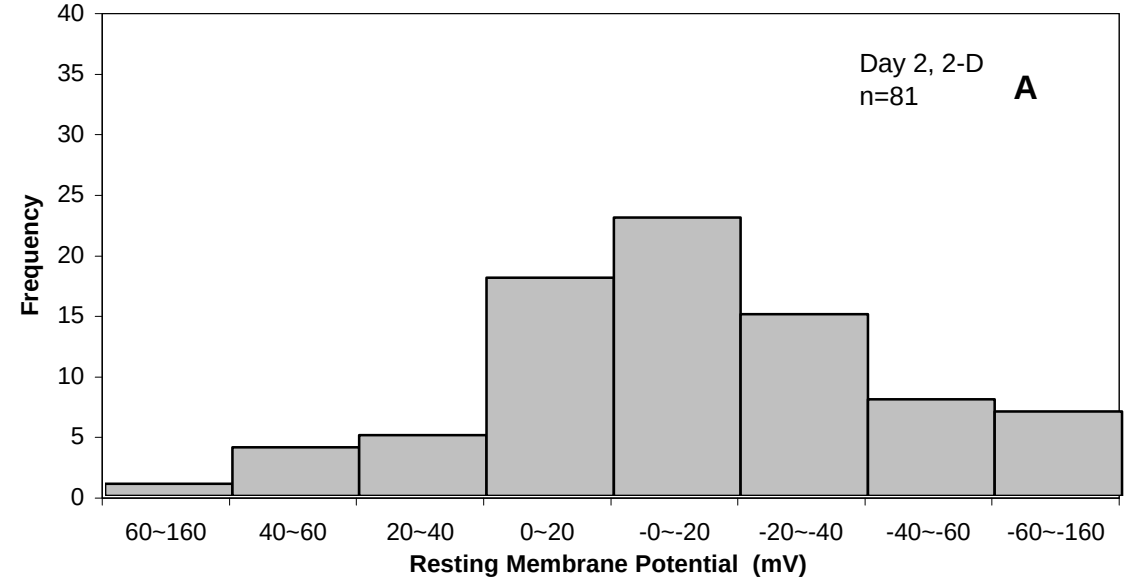

Day 8, 2-D
n=92
B
Frequency
0
5
10
15
20
25
30
35
40
60~160
40~60
20~40
0~20
-0~-20
-20~-40
-40~-60
-60~-160
Resting Membrane Potential (mV)

Figure 3


Day 2, 2-D
n=81
A
Frequency
40
35
30
25
20
15
10
5
0
60~160
40~60
20~40
0~20
-0~-20
-20~-40
-40~-60
-60~-160
Resting Membrane Potential (mV)

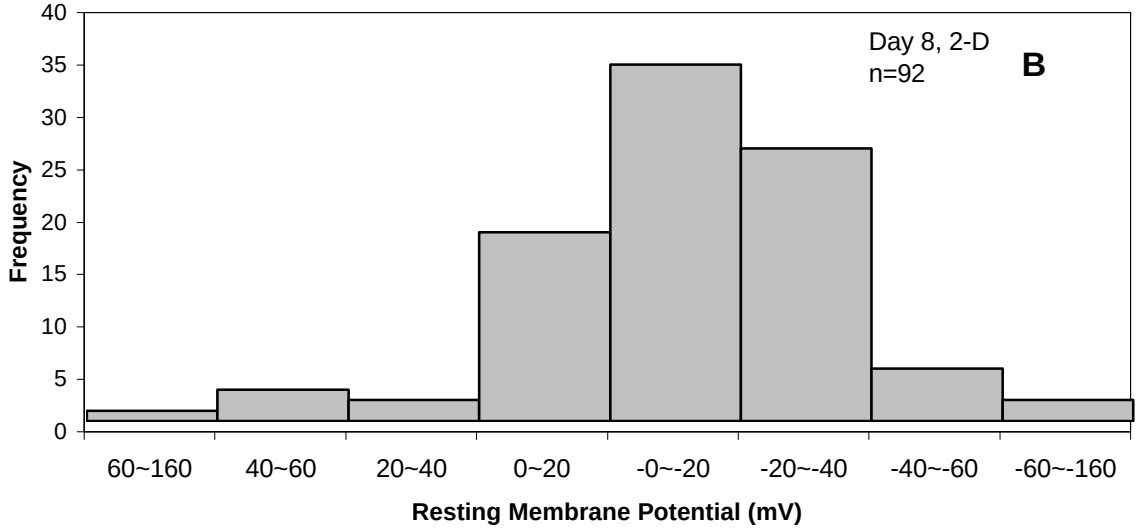
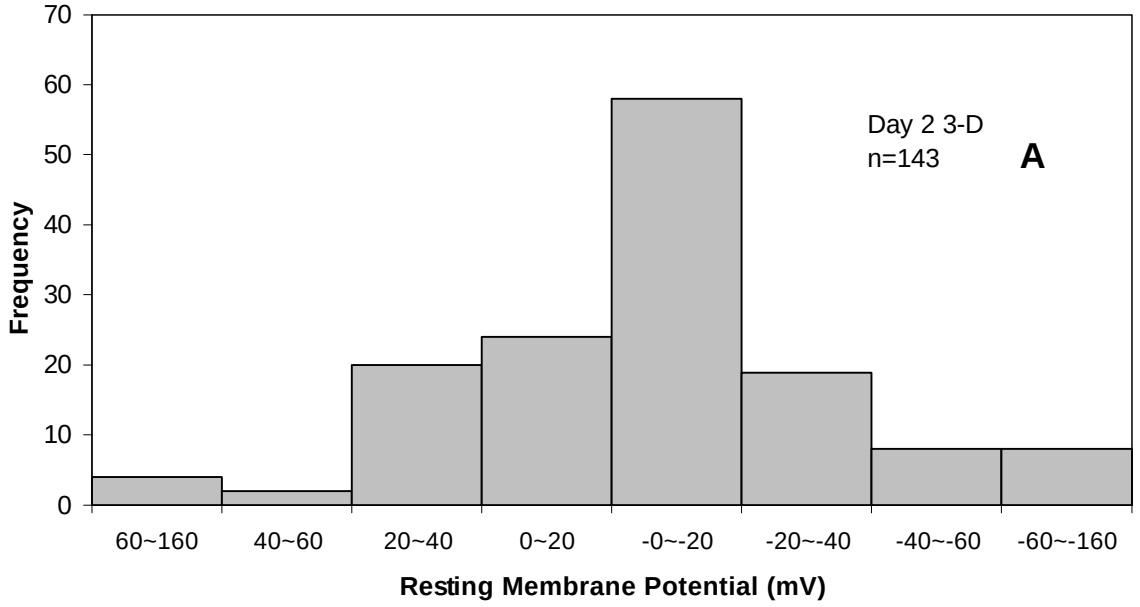

Day 8, 2-D
n=92
B
Frequency
40
35
30
25
20
15
10
5
0
60~160
40~60
20~40
0~20
-0~-20
-20~-40
-40~-60
-60~-160
Resting Membrane Potential (mV)

Figure 3


70
60
50
40
30
20
10
0
Frequency
Day 2 3-D
n=143
A
60~160
40~60
20~40
0~20
-0~-20
-20~-40
-40~-60
-60~-160
Resting Membrane Potential (mV)

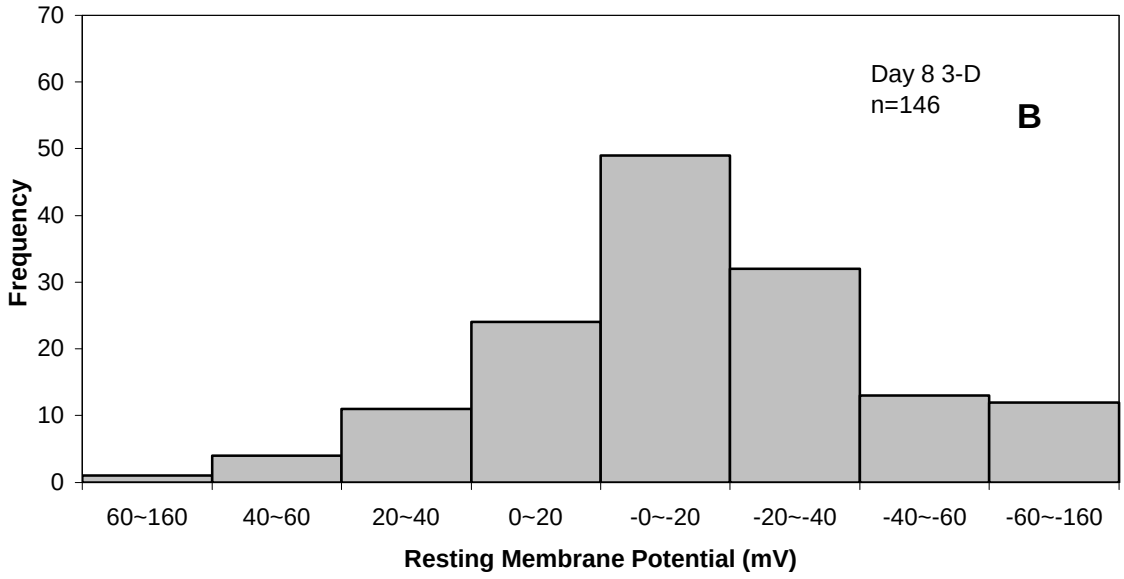

70
60
50
40
30
20
10
0
Frequency
Day 8 3-D
n=146
B
60~160
40~60
20~40
0~20
-0~-20
-20~-40
-40~-60
-60~-160
Resting Membrane Potential (mV)

Figure 4

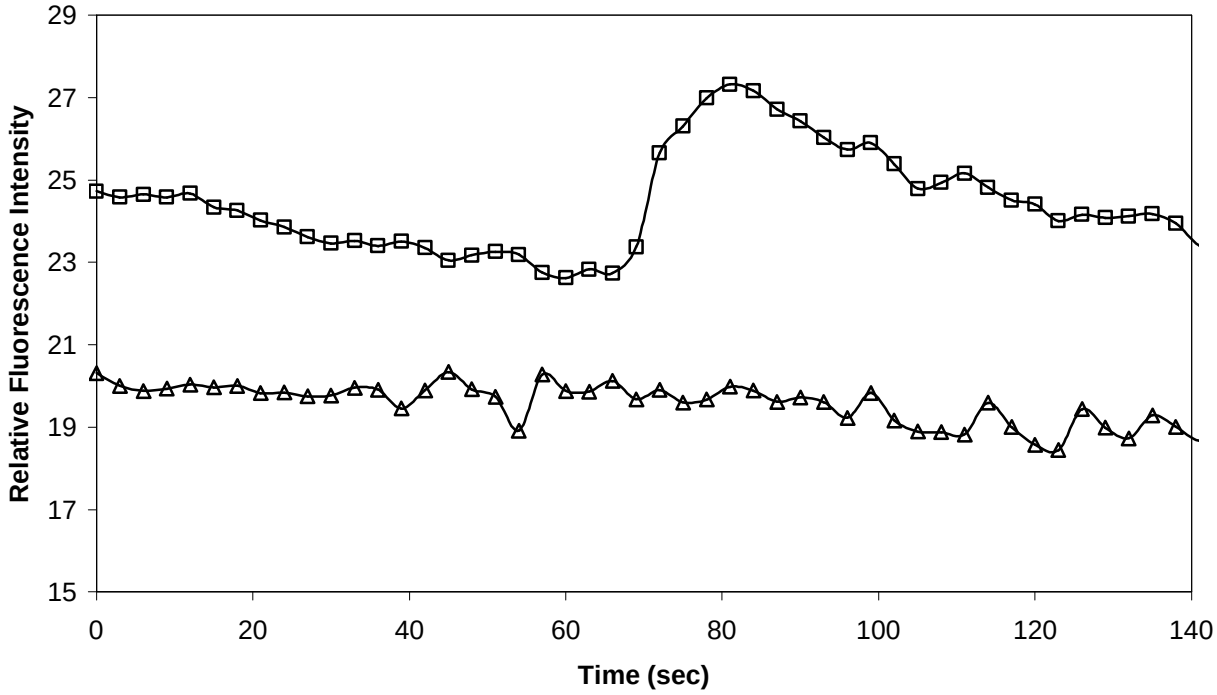

Relative Fluorescence Intensity
29
27
25
23
21
19
17
15
0
20
40
60
80
100
120
140
Time (sec)

Figure 5

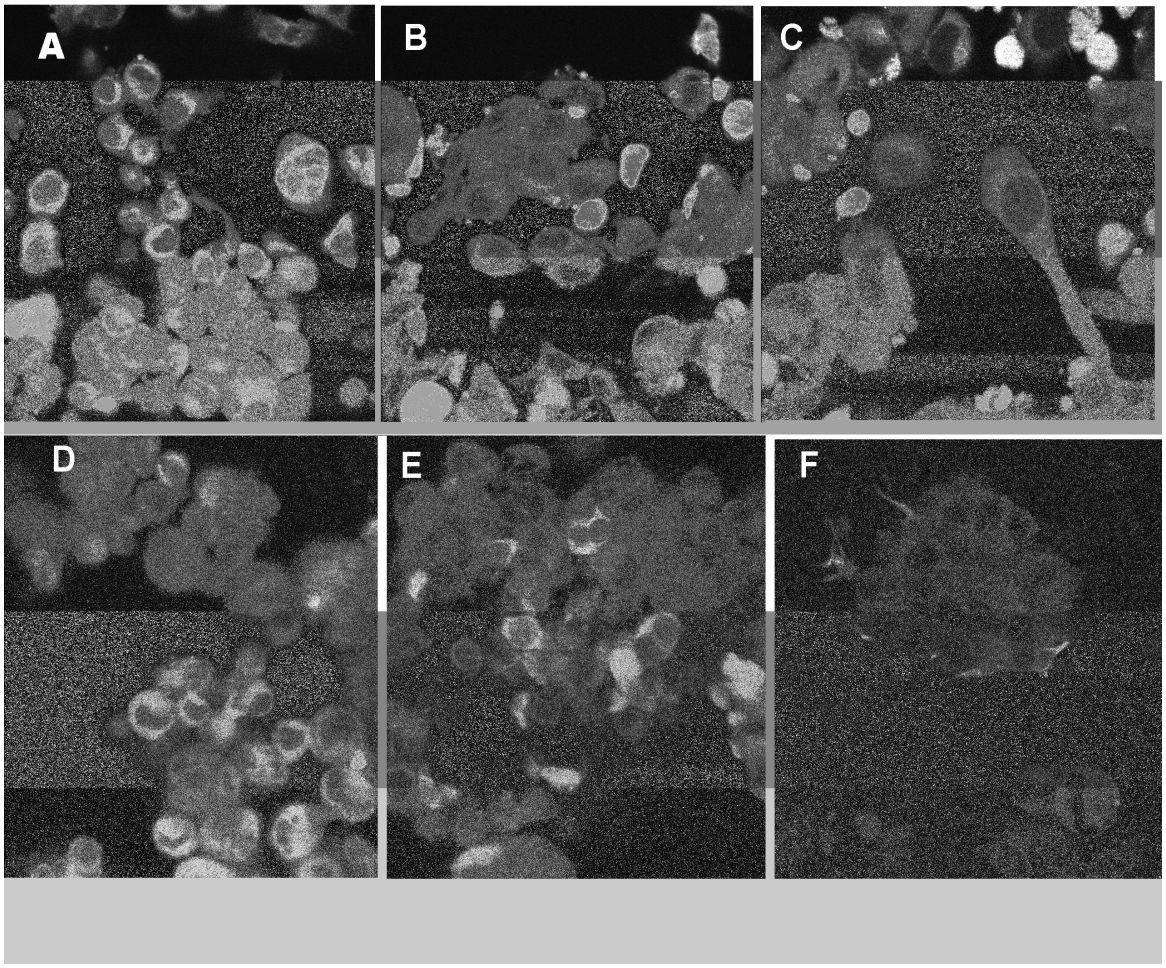


Figure 6

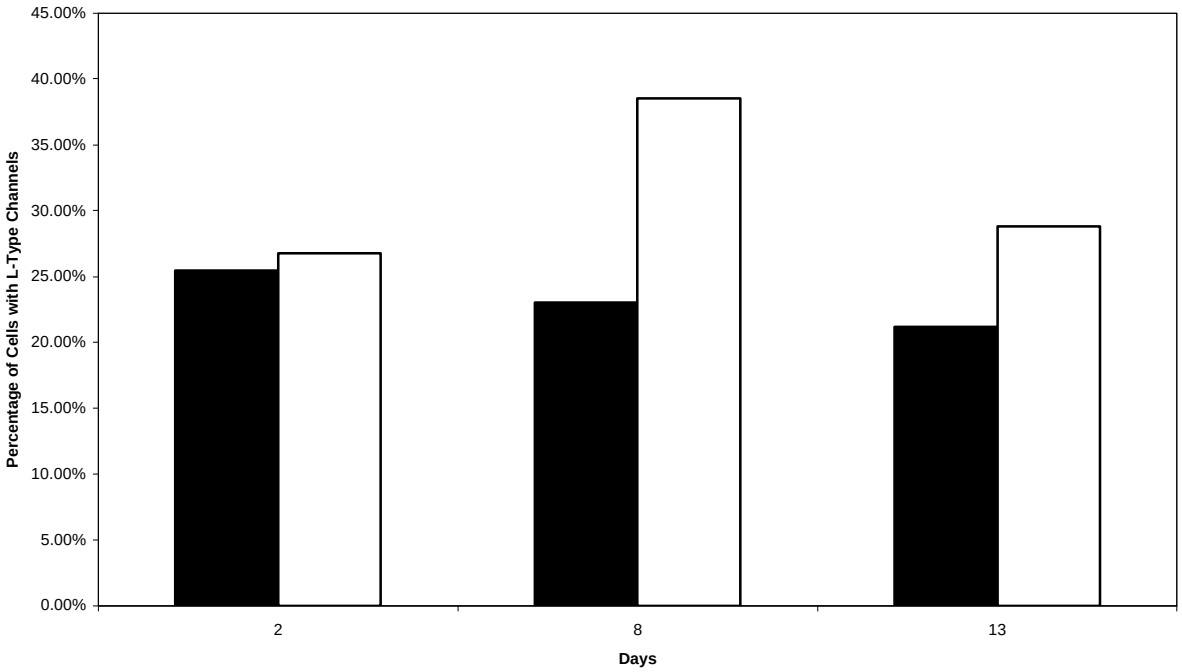

45.00%
40.00%
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Percentage of Cells with L-Type Channels
2
8
13
Days

Figure 7

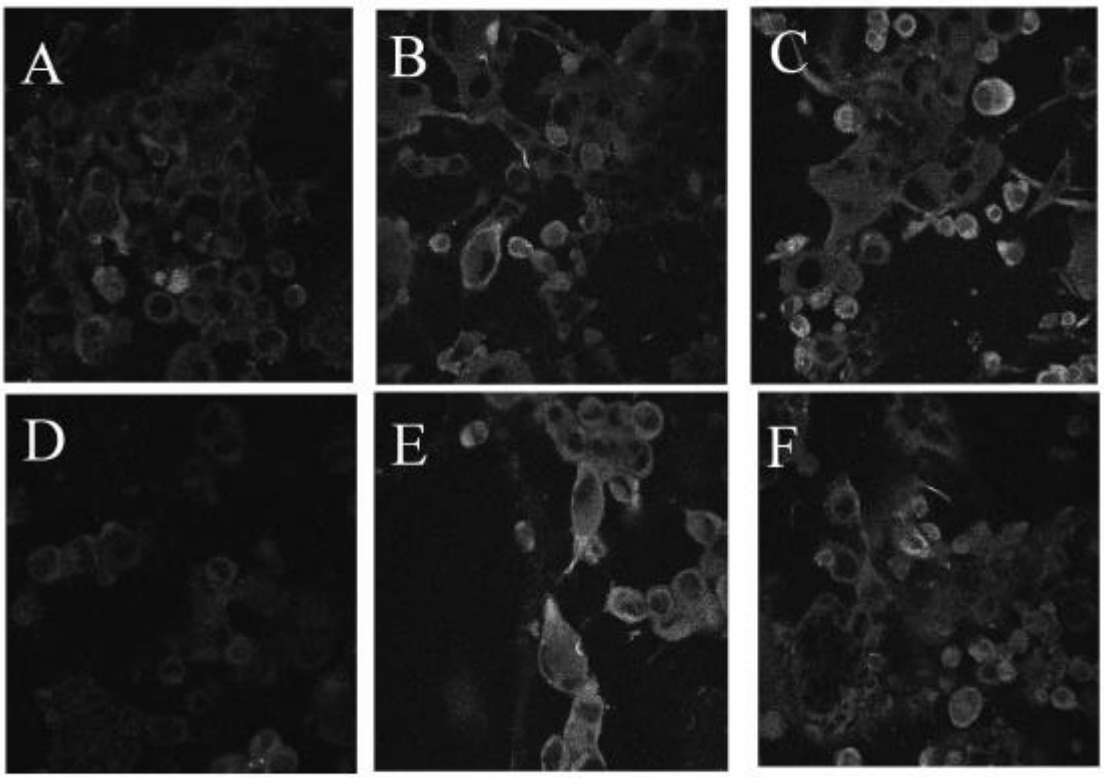


Figure 8

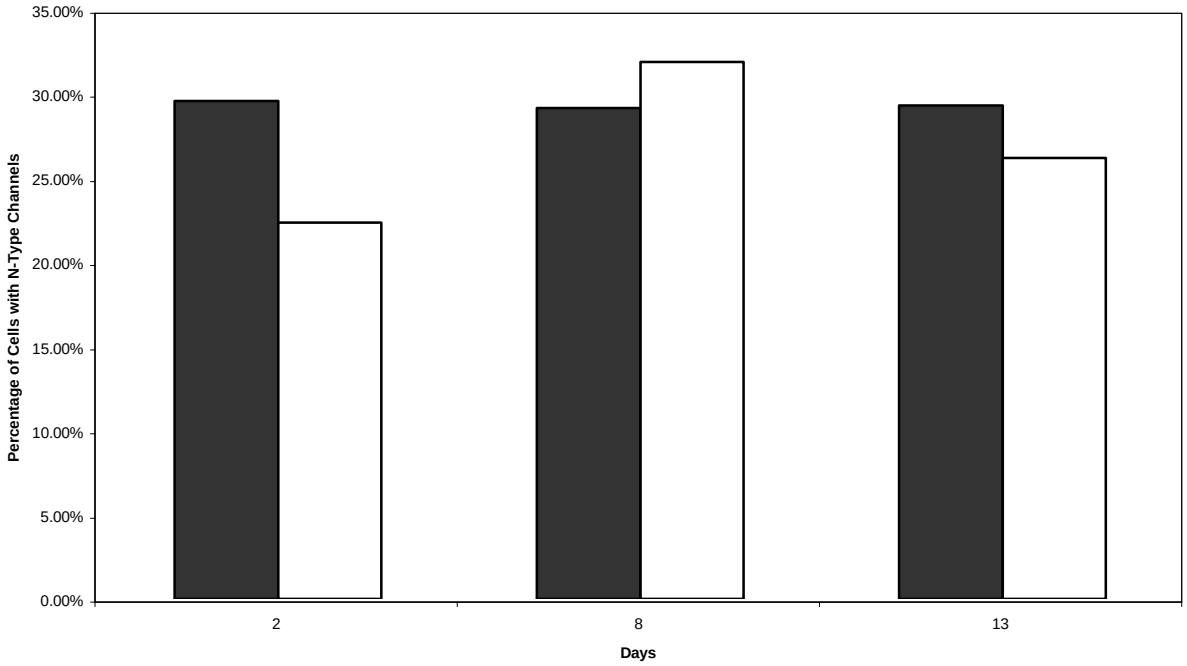

35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Percentage of Cells with N-Type Channels
2
8
13
Days

Figure 9

CHAPTER 4

CONCLUSIONS AND FUTURE DIRECTIONS

Recent studies have shown the contrast in cell behavior when evaluated *in vivo* and *in vitro* (Stoll et al., 2002, Miller et al., 2002) and this has led to the focus on the development of cell-based biosensors that are three-dimensional like the extracellular matrix. The conclusions of this study confirm the differences in results produced by using a 2-D matrix versus a 3-D matrix (Cukierman et al., 2001). It has been suggested that the 2-D results may be "exaggerated precursors" of in vivo cell behavior (Cukierman et al., 2002). The three-dimensional interactions of a cell in its natural environment are complex and may be missing within a 2-D matrix (Friedl et al., 2000). Thus, the next logical step is to compare the results of a 3-D matrix to an in vivo model. Recent studies have discovered new insights into lymphocyte cell behavior *in vivo*, which contrasts the *in vitro* results (Miller et al., 2002, Stoll et al., 2002).

Collagen hydrogels are good candidates for a 3-D structure mechanically and optically, however, they exhibit low permeability rates to large compounds (Mao and Kisaalita, 2004). Hydrogels are only one of the many options available to create a 3-D matrix. Nanostructures are gaining popularity in studying cells due to their ability to mimic 3-D ECM at the nano and micro scale where cell interactions with the ECM can make a big difference (Karlsson et al., 2003; Goodman et al., 1996; Wei and Ma 2004). Mostly, cell proliferation and viability has been studied in these 3-D nanostructures. Future studies could incorporate voltage gated ion channels, receptors of various kinds, and other cellular processes such as cell-cell signaling.

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APPENDIX A

LABORATORY PROTOCOLS

A1. Growth And Differentiation Media for SH-SY5Y

Recipe for minimum essential medium:

1. 9.3 g MEM (Sigma-M3024).
2. Add 5mg phenol red to MEM powder.
3. Add 2.2 g Sodium Bicarbonate.
4. Add 800 ml of deionized water to the mix from above.
5. Adjust pH to 7.2 with 5 M HCl.
6. Bring final volume to 1 L with deionized water.
7. Filter sterilize the medium using 0.2 µM Vacucap filter.

Preparation of growth medium:

1. Add 50 ml Fetal Bovine Serum (Hyclone) to 445 ml MEM.
2. Add 5 ml of 200 mM L-glutamine.

Preparation of differentiation medium:

1. Add 25 ml Fetal Bovine Serum to 465 ml of MEM.
2. Add 5 ml of 200 mM L-glutamine.
3. Add 1.25 ml of 1 mM 5-bromo-2-deoxyurdine (BrdU) to make 2.5 M BrdU.
4. Add 5 ml of 100 mM dibutyryl cyclic AMP to make 1 mM dibutyryl cAMP.

A2. Preparation of Collagen Hydrogel Stock Solution and Embedding Cells in Collagen Hydrogel

Materials for Collagen Stock Solution:

- Phosphate Buffered saline 2X (PBS 2X)
- Phosphate Buffered saline (PBS)
- 0.2% (v/v) Acetic acid
- 1 M NaOH (sterilized)

Procedure:

1. Preparation of PBS 2X.
    - To 900 mL of deionized water add 16 g NaCl.
    - Add 0.4 g KCl.
    - Add 2.88 g Na_2HPO_4 anhydrous.
    - Add 0.48 g KH_2PO_4 anhydrous.
    - Adjust pH to 7.4 with 0.1 M NaOH.
    - Bring final volume to 1 L with deionized water.
    - Autoclave solution to sterilize.
2. Preparation of PBS.
    - To 900 mL of deionized water add 8 g of NaCl.
    - Add 0.2 g KCl.
    - Add 1.44 g of Na2HPO4 anhydrous.
    - Add 0.24 g KH2PO4 anhydrous.
    - Adjust pH to 7.4 with 0.1 M NaOH.

- Autoclave solution to sterilize.

3. Preparation of Acetic Acid
    - Measure 0.2 ml of pure acetic acid
    - Add 99.8 ml deionized water.
    - Autoclave to sterilize.
4. Measure out 12 mg of Collagen Type 1A (Sigma) in a conical tube.
5. Add 2.5 ml of 0.2 % (v/v) acetic acid to the collagen.
6. Place the tube under UV overnight for dissolving and sterilization.
7. Add 2.5 ml of PBS 2X.
8. Adjust pH with 1 M NaOH.
9. Bring final volume to 12 ml by adding PBS.
10. Place the stock solution on ice or at 4^0C to avoid polymerization.
11. Preparing Collagen embedded cells.
    - Detach cells from 75-cm^2 T-flasks and follow by centrifuging and re-suspension into growth medium. Count cells and dilute the cell suspension to achieve desire cell density.
    - Add the appropriate volume of cell suspension to a 35 mm petri dish and then, add appropriate amount of collagen stock solution (1 mg/ml) to the petri dish. Gently pipet the collagen-cell to mix well.
    - Place the 35 mm petri dish in a 37^0C incubator for 2 hours to allow the gel to set.
    - Then, add 2 ml of growth medium to the petri dish and place in the incubator.

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A3. Measurement of Resting Membrane Potential Using Oxonol Fluorescence

Mateirals:

- Phosphate Buffered Saline (PBS)
- Oxonol $DiBAC_4$ (3)
- Dimethyl Sulfoxide (DMSO)

Procedure:

1. Prepare oxonol stock. Dissolve 5 mg oxonol in 10 ml of DMSO to get a 10X concentration of oxonol. Dilute 1 ml of 10X stock into 10 ml DMSO to get a 1 X concentration.
2. Cells are plated in 12-well plates as monolayer cells only, collagen-cells, collagen only, and a blank.
3. For monolayer and collagen embedded cultures, cells are plated at density of 5×10^5 cells/plate.
4. Remove the differentiation media from the wells, and add 4 ml PBS to each well and add 20 µl of 1X oxonol dye to all wells except blank.
5. Incubate at 37^0C for 30 minutes.
6. Remove the PBS solution and add fresh PBS to each well. Repeat the wash step 3 times.

7. Load the 12-well plate in Flexstation reading chamber and obtain fluorescence readings for each well using WellScan setting in SOFTmax PRO (version 4.0.1) at 37^0C.
8. Obtain an average reading for each day and plot this against days to obtain a resting membrane potential development curve.

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2. Mao, C and Kisaalita, W. 2004. Characterization of 3-D collagen hydrogels for functional cell-based biosensing. *Biosensors and Bioelectronics* 9: 1075-1088.

A4. Measurement of Resting Membrane Potential with Confocal Microscope

Materials:

- HEPES Buffered Saline (HBS)
- Valinomycin
- Tetramethylrhodamine, methyl ester, perchlorate (TMRM)
- 1 M NaOH

Procedure:

1. Prepare HBS. 7.6 g NaCl (130 mM), 0.41 g KCl (5.5 mM), 0.2 g $CaCl_2$ (1.8 mM), 0.2 g $MgCl_2$ (1 mM), 4.5 g glucose (25 mM), 4.8 g HEPES (20 mM) buffer adjusted to pH 7.4 with 1 M NaOH.

2. Prepare 10 mM valinomycin stock. Dissolve 10 mg of valinomycin in 1 ml of 95 % ethanol. Store at -20^{0}C.
3. Prepare0.5 mM TMRM stock. Add 2.5 mg TMRM in 10 ml of 95 %. Store at -20^{0}C.
4. Prepare 500 nM TMRM buffer in HBS. Add 20 µl TMRM stock to 20 ml HBS. Prepare fresh solution for each use.
5. Prepare high potassium buffer. Dissolve 0.32 g NaCl (5.5 mM), 9.7 g KCl (130 mM), 0.2 g $CaCl_2$ (1.8 mM), 0.2 g $MgCl_2$ (1 mM), 4.5 g glucose (25 mM glucose), and 4.8 g HEPES (20 mM) in deionized water and adjust pH to 7.4 with 1 M KOH. Bring final volume to 1 L.
6. Prepare depolarizing high potassium TMRM buffer. Add 20 µl of TMRM stock and 2 µl valinomycin stock to 20 ml high potassium buffer. Prepare fresh solution for each use.

Monolayer Cultures:

7. Differentiating cells are attached to No. 1.5 coverslip embedded in a 35 mm petri dish at a density of 5 x 10^5 cells/plate. Gently wash the cells with HBS twice and TMRM buffer once.
8. Add 2 ml TMRM buffer and incubate at 37^{0}C for 20 minutes.

Collagen Hydrogel Cultures:

9. Cells are plated in collagen hydrogel at a density of 1.2 x 10^5 cells/plate in a 1 ml collagen-cell solution.
10. Wash cells with HBS twice and TMRM buffer once.
11. Add 2 ml TMRM buffer and incubate at 37^{0}C for 40 minutes.

Fluorescence Intensity measurement with confocal:

12. The confocal, imaging system (PCM-2000 Nikon) linked to an inverted (TE300, Nikon) microscope and a 60X Apochromat, oil-immersion, high numerical aperture (1.40) objective lens is used to make measurements.
13. TMRM has excitation/emission peak of 548/573 nm. Cells can be excited by green HeNe laser and fluorescence can be measure through the red channel.
14. Mount the petri dish on the microscope stage and obtain a field of view with several cells with the inverted bright-field light path.
15. Switch to the confocal path and set the neutral density (ND) filter at 10% and select small pinhole aperture. Set the black and gain levels manually until the cytosolic area shows a significant grey level.
16. Find a new field of view and capture and save an image with single fast scan.
17. Repeat step 16 until a sufficient number of cells have been imaged.
18. Find a field of view devoid of cells and set neutral density filter at 100%. Capture an image to use for outside fluorescence intensity measurements.
19. Capture an image of a petri dish with only dye and buffer at 10% ND filter setting, black and gain levels as used in steps 16-18 which will be used as background fluorescence, $B^{10\%}$ for the entire image.
20. Wash monolayer culture cells twice with high potassium buffer and depolarizing TMRM buffer once. Wash cells in collagen hydrogel twice with high potassium buffer and twice with TMRM buffer. Also, repeat the step with background petri dish.

21. Add 2 ml depolarizing TMRM buffer into petri dish with monolayer culture and incubate at 37^0C for 10 minutes. Cells in collagen hydrogel are incubated for 2 hours to ensure complete re-distribution of the dye.
22. Mount the petri dish on stage and repeat steps 16 to 18 to capture images images of depolarized cells.
23. Capture background image at 100% ND filter of background petri plate.
24. Choose regions of interest (ROI) for each save image in the cytosolic area of the cells and measure the grey level of the ROI.
25. Use the following equation to determine the resting membrane potential of the cells:

$$V_m = -58\log_{10}\left[\frac{\left(F_{in}^{10\%} - B^{10\%}\right)\times\left(F_{Out\_free}^{100\%} - B^{100\%}\right)}{\left(F_{out}^{100\%} - B^{100\%}\right)\times\left(F_{in\_free}^{10\%} - B^{10\%}\right)}\right]$$

where $F_{in}^{10\%}$ is the the fluorescence intensity inside the cells before depolarization, $F_{out}^{100\%}$ is the fluorescence intensity outside the cell before depolarization, $F_{in\_free}^{10\%}$ is the fluorescence intensity inside the cell after depolarization, $F_{out\_free}^{100\%}$ is the fluorescence intensity outside the cell after depolarization, B10% is the background depolarization at 10% ND filter setting, and B100% is the background depolarization at 100% ND filter.

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A5. Measurement of Calcium Influx

Materials:

- HEPES Buffered Saline (HBS)
- Dimethyl Sulphoxide (DMSO)
- Pluronic F-127
- Fetal Bovine Serum (FBS)
- Calcium-Green-1, Acetoxymethyl (AM) Ester

Procedure:

Stock Preparation:

1. Prepare dye stock. Dissolve Calcium Green-AM in DMSO to obtain a stock solution of 1 mM. Add 39 µl DMSO to 50 µg calcium green AM vial to make 1 mM dye stock.
2. Prepare Pluronic F-127 stock. Weigh 0.2 g Pluronic F-127 in a 1.5 ml microcentrifuge tube and add 1 ml DMSO to make 20% (w/v) stock.
3. Prepare HBS as per A4.
4. Prepare high potassium buffer stock. Dissolve 0.738 g of KCl to 20 ml HBS to get 495 mM potassium buffer.
5. Prepare dye solution for monolayer cell cultures. Mix 5 µl of Calcium Green stock with 1 µl pluronic F-127 stock in a 1.5 ml microcentrifuge tube. Then, add 30 µl of FBS and 964 µl of HBS. The final concentrations are 5 µM Calcium Green, 0.02% Pluronic F-127, and 3% FBS.

6. Prepare dye solution for cells in collagen hydrogel. Mix 155 µg Calcium Green (3 vials of 50 µg each) with 60 µl of DMSO. Add 2 l of Pluronic F-127, 30 µl FBS, and 908 µl HBS. The solution contains 120 µM Calcium Green, 0.04% Pluronic-F127, and 3% FBS.

Monolayer Cultures:

7. Cells are attached to No. 1.5 coverslip embedded in a 35-mm petri dish. Cells are plated at a density of 5×10^5 cells/plate.
8. Wash the coverslip twice with HBS and add the dye solution for monolayer cells to the petri dish.
9. Incubate at 37^0C for 1 hour.
10. Wash the cells with HBS three times.
11. Incubate with 1 ml HBS for 45 minutes for de-esterification.

Collagen Hydrogel Cultures:

12. Cells are plated in collagen hydrogel at a density of 1.2×10^6 cells/plate in 1 ml collagen-cell solution.
13. Wash the plate with HBS twice and add the dye solution.
14. Incubate at 37^0C for 5 hours.
15. Wash the cells with HBS four times.
16. Incubate plate with 2 ml HBS for 2 hours for de-esterification.

Fluorescence Intensity Measurements:

17. The fluorescent intensity is measure by a confocal imaging system (PCM-2000, Nikon) linked to an inverted (TE300, Nikon) mircroscope and a 60X Apochromat, oil-immersion, high numerical aperture (1.40) objective lens.
18. Calcium Green-1 has excitation/emission pak at 510/550 nm. It can be excited with 488 nm argon laser and the emission can be visualized through the green channel.
19. Mount the petri dish on the microscope stage. Find a field of view with cells using the bright-field light path. Switch to confocal light path.
20. Select small pinhole setting and with 100% ND filter, fast scan and set black and gain level. Make sure the fluorescent intensity in the cells does not exceed one third of the saturation level.
21. Capture images with a continuous time scan mode. Add 100 µl potassium buffer into the petri dish during the time scan. The change in calcium levels is capture and saved as change in grey levels.
22. Set ROI for the save image and measure the grey level. Plot the grey level against time.

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1. Mao, C and Kisaalita, W. 2004. Characterization of 3-D collagen hydrogels for functional cell-based biosensing. *Biosensors and Bioelectronics* 9: 1075-1088.

A6. L-Type and N-Type Calcium Channel Immunofluorescence Using Confocal Microscope.

Materials:

- Bovine Serum Albumin (BSA)
- Triton X-100
- Tween 20
- Phosphate Buffered Saline (PBS)
- Formaldehyde
- BODIPY-FL verapamil hydrochloride (B7431 Molecular Probes)
- Anti-Calcium Channel (a_{1B} subunit) (N-Type of voltage gated calcium channel) developed in rabbit (Sigma C1478)
- Alexa Fluor 488 chicken anti-rabbit IgG (A-21441 Molecular Probes)

Procedure:

1. Prepare PBS according to A2.
2. Mix 0.4 ml formaldehyde (37% solution) in 9.6 ml of PBS.
3. Dissolve 0.1 g of BSA into PBS to obtain a 1% BSA solution.
4. Mix 0.1 ml Triton X-100 in 9.9 ml of PBS to obtain a 1% Triton X-100 solution.
5. Mix 10 µl of Tween 20 in 9.9 ml of PBS to obtain a 0.1% Tween 20 PBS (T-PBS).
6. Dilute BODIPY-FL verapamil by adding 100 µl deionized water. Add 10 µl of this stock solution to 10 ml of 1% BSA in PBS to obtain 10 µg/ml concentration of antibody.

7. Dilute Anti-N Type antibody into 1.5 ml of 1% BSA in PBS to get 10 µg /ml concentration.
8. Dilute Alexa Fluor 488 conjugated antibody into 500 µl of deionized water. Dilute 50 µl of this stock solution into 10 ml 1% BSA in PBS to get 10 µg /ml concentration.
9. Cells are attached to a coverslip at 5 x 10^5 cells/plate in a 35-mm petri dish and at 1.2 x 10^6 cell/plate in collagen hydrogel.
10. Wash the cells with PBS twice and add 1 ml of 4 % formaldehyde solution in a hood avoiding inhalation of fumes. Incubate the plates for 30 minutes at room temperature. Formaldehyde solution is added to fix the cells.
11. Wash the cells with PBS twice and air-dry the plates completely.
12. Incubate the cells with 1 % Triton X-100 for 30 minutes at room temperature.
13. Wash the cells with PBS twice and add 1% BSA solution and incubate for 30 minutes at room temperature to block nonspecific binding.
14. Wash the cells with PBS twice. Allocate a certain number of monolayer and collagen plates for L-Type staining and others for N-Type staining. For L-Type staining, add 1 ml 10 µg/ml of BODIPY-Fl verapamil incubate for 1 hour at room temperature. For control, add 1% BSA solution to one plate of each culture.
15. Use the remaining plates for N-Type staining, add 1 ml of anti-N Type antibody (10 µg/ml) to each monolayer and collagen culture plates and incubate for 1 hour at room temperature. Again for control, add 1 ml of 1% BSA solution to each of the two culture plates.

16. Wash the plates with 0.1% T-PBS. The plates with L-Type antibody are ready for confocal imaging. Add 1 ml anti anti-N type antibody conjugated to Alexa 488 (10 µg/ml) and incubate plates for 1 hour at room temperature.
17. Wash the N-Type stained plates with 0.1 % T-PBS. Store the collagen plates at – 4^0C for 4 days as the antibody does not enter the hydrogel readily and plates can be imaged then.
18. The fluorescent intensity is measure by a confocal imaging system (PCM-2000, Nikon) linked to an inverted (TE300, Nikon) microscope and a 60X Apochromat, oil-immersion, high numerical aperture (1.40) objective lens.
19. BODIPY-FL verapamil has excitation/emission peak at ~503/512 and Alexa-488 has excitation/emission peak at ~ 488/525 nm. Both can be excited with 488 nm argon laser and the emission can be visualized through the green channel.
20. Mount the plate microscope stage and set black and gain levels at 10% neutral density filter setting with small pinhole for high resolution.
21. Obtain images of cells and save images. Measure the grey level of cells in view and obtain the 75^{th} percentile of the fluorescent intensity for each type of staining. Cells with 75^{th} percentile or higher fluorescent intensity are considered positive for channels. Use this number to calculate the percentage of cells with each channel type.

REFERENCES

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APPENDIX B

RAW DATA FOR CHAPTER 3

Table B.1A. Cell proliferation data of SH-SY5Y cells through 72 hours in 2-D monolayer. Data was used to generate figure 1.

	0 Hours (Cells)	24 Hours (Cells)	48 Hours (Cells)	72 Hours (Cells)
1	500000	111666.7	167916.7	287916.7
2	500000	112916.7	220000	274583.3
3	500000	94583.33	216250	271250
4	500000	164583.3	254166.7	317916.7

Table B.1B. Cell proliferation data of SH-SY5Y cells through 72 hours in 3-D collagen hydrogels. Data was used to generate figure 1.

	0.5 Hours (Cells)	24 Hours (Cells)	48 Hours (Cells)	72 Hours (Cells)
1	420000	540000	690000	1117500
2	795000	360000	922500	1110000
3	502500	420000	825000	1110000

Table B.2. Relative Fluorescent Intensity of differentiating SH-SY5Y cells loaded with oxonol dye in 3-D collagen hydrogels. Data was used to generate figure 2.

	Day 2	Day 4	Day 8	Day 12
1	35863.67	14448	14812.33	44935
2	38043.67	28295	3263.333	28617
3	39960.67	7022	13307.33	37357
4	48323.33	46742.33	36157.67	39713
5	41987.33	36233.33	51229.67	30826
6	44574.33	36233.33	29128.67	30826
7	25770.67	17816.33	39000.33	32020.67
8	28885.67	26208.33	38454.33	24945.67
9	19250.67	24852.33	42007.33	17077.67
10	67591.67	41979.67	29595	34199.67
11	43607.67	27022.67	27719	34146.67
12	32929.67	26815.67	-487	21440.67

Table B.3. Resting Membrane Potential Data for SH-SY5Y Cells.

Column Title	**Definition**
$F_{in}^{10\ \%}$	Fluorescence intensity inside the cells before depolarization
$F_{out}^{100\ \%}$	Fluorescence intensity outside the cell before depolarization
$F_{In\_free}^{10\%}$	Fluorescence intensity inside the cell after depolarization
$F_{Out\_free}^{100\ \%}$	Fluorescence intensity outside the cell after depolarization
$B^{10\%}$	Fluorescence intensity of background plate at 10% neutral density (ND) filter setting before depolarization
$B^{100\%}$	Fluorescence intensity of background plate at 100% ND filter setting before depolarization
$B_{free}^{10\%}$	Fluorescence intensity of background plate at 10% neutral density (ND) filter setting after depolarization
$B_{free}^{100\%}$	Fluorescence intensity of background plate at 10% neutral density (ND) filter after depolarization
V_m	Resting membrane potential

Table B.3A. Confocal microscopy data for resting membrane potential determination in differentiating Day 2 SH-SY5Y cells cultured in 2-D monolayer. Data was used to generate figure 3A.

Cell	$F_{in}^{10\ \%}$	$F_{out}^{100\ \%}$	$F_{In\_free}^{10\%}$	$F_{Out\_free}^{100\ \%}$	$B^{10\%}$	$B^{100\%}$	$B_{free}^{10\%}$	$B_{free}^{100\%}$	V_m
1	6.72	44.16	18.43	51.20	3.84	9.08	3.28	7.96	36.56
2	12.92	44.16	13.75	51.20	3.84	9.08	3.28	7.96	-1.67
3	7.65	44.16	8.09	51.20	3.84	9.08	3.28	7.96	0.61
4	10.09	44.16	6.88	51.20	3.84	9.08	3.28	7.96	-19.19
5	10.09	44.16	6.88	51.20	3.84	9.08	3.28	7.96	-19.19
6	7.40	44.16	4.50	51.20	3.84	9.08	3.28	7.96	-32.24
7	10.58	44.16	4.42	51.20	3.84	9.08	3.28	7.96	-49.99
8	10.09	44.16	4.25	51.20	3.84	9.08	3.28	7.96	-52.23
9	10.09	44.16	8.58	51.20	3.84	9.08	3.28	7.96	-9.41
10	10.09	44.16	9.50	51.20	3.84	9.08	3.28	7.96	-5.40
11	10.75	44.16	11.44	51.20	3.84	9.08	3.28	7.96	-1.06
12	11.86	44.16	17.88	51.20	3.84	9.08	3.28	7.96	9.81
13	11.00	44.16	12.69	51.20	3.84	9.08	3.28	7.96	1.63
14	19.60	44.16	31.20	51.20	3.84	9.08	3.28	7.96	9.14
15	12.78	44.16	27.75	51.20	3.84	9.08	3.28	7.96	20.10
16	12.78	44.16	19.42	51.20	3.84	9.08	3.28	7.96	9.61
17	18.00	44.16	13.00	51.20	3.84	9.08	3.28	7.96	-14.75
18	14.10	44.16	20.00	51.20	3.84	9.08	3.28	7.96	7.04
19	9.17	44.16	14.75	51.20	3.84	9.08	3.28	7.96	14.06
20	11.50	44.16	8.65	51.20	3.84	9.08	3.28	7.96	-14.19
21	13.00	44.16	8.65	51.20	3.84	9.08	3.28	7.96	-18.70
22	15.67	44.16	8.65	51.20	3.84	9.08	3.28	7.96	-25.14
23	13.75	44.16	8.33	51.20	3.84	9.08	3.28	7.96	-22.23
24	10.63	44.16	20.29	51.20	3.84	9.08	3.28	7.96	17.88
25	11.67	44.16	10.83	51.20	3.84	9.08	3.28	7.96	-6.16
26	13.17	44.16	6.25	51.20	3.84	9.08	3.28	7.96	-34.10
27	5.50	44.16	11.13	51.20	3.84	9.08	3.28	7.96	33.91
28	14.75	44.16	4.42	51.20	3.84	9.08	3.28	7.96	-62.26
29	8.82	44.16	7.56	51.20	3.84	9.08	3.28	7.96	-9.05
30	13.42	44.16	4.97	51.20	3.84	9.08	3.28	7.96	-48.94
31	6.83	44.16	12.00	51.20	3.84	9.08	3.28	7.96	21.69
32	8.00	44.16	5.50	51.20	3.84	9.08	3.28	7.96	-21.08
33	13.17	44.16	23.00	51.20	3.84	9.08	3.28	7.96	13.60
34	14.00	44.16	4.00	51.20	3.84	9.08	3.28	7.96	-71.97
35	13.21	44.16	17.75	51.20	3.84	9.08	3.28	7.96	5.67
36	6.00	44.16	7.33	51.20	3.84	9.08	3.28	7.96	10.63
37	28.00	44.16	16.31	51.20	3.84	9.08	3.28	7.96	-20.82
38	14.75	44.16	11.53	51.20	3.84	9.08	3.28	7.96	-12.32
39	12.40	44.16	20.21	51.20	3.84	9.08	3.28	7.96	11.91

Table B.3A. Continued.

Cell	$F_{in}^{10\ \%}$	$F_{out}^{100\ \%}$	$F_{In\_free}^{10\%}$	$F_{Out\ \_\ free}^{100\ \%}$	$B^{10\%}$	$B^{100\%}$	$B_{free}^{10\%}$	$B_{free}^{100\%}$	V_m
40	13.93	44.16	8.50	51.20	3.84	9.08	3.28	7.96	-21.86
41	13.45	44.16	24.63	51.20	3.84	9.08	3.28	7.96	14.83
43	9.09	44.16	7.80	51.20	3.84	9.08	3.28	7.96	-9.05
44	14.29	34.20	11.96	53.38	10.62	10.82	10.42	11.04	-36.73
45	10.40	34.20	9.75	53.38	10.62	10.82	10.42	11.04	13.27
46	14.29	34.20	10.94	53.38	10.62	10.82	10.42	11.04	-64.14
47	14.29	34.20	11.96	53.38	10.62	10.82	10.42	11.04	-36.73
48	14.29	34.20	11.96	53.38	10.62	10.82	10.42	11.04	-36.73
49	15.67	34.20	11.96	53.38	10.62	10.82	10.42	11.04	-44.77
50	22.67	34.20	11.96	53.38	10.62	10.82	10.42	11.04	-66.68
51	19.00	34.20	11.00	53.38	10.62	10.82	10.42	11.04	-82.09
52	12.00	34.20	11.96	53.38	10.62	10.82	10.42	11.04	-12.14
53	16.30	34.20	11.96	53.38	10.62	10.82	10.42	11.04	-47.73
54	16.30	34.20	11.96	53.38	10.62	10.82	10.42	11.04	-47.73
55	16.30	34.20	13.29	53.38	10.62	10.82	10.42	11.04	-32.09
56	16.30	34.20	10.50	53.38	10.62	10.82	10.42	11.04	-121.35
57	16.30	34.20	10.50	53.38	10.62	10.82	10.42	11.04	-121.35
58	12.16	34.20	13.29	53.38	10.62	10.82	10.42	11.04	0.75
59	11.21	34.20	24.50	53.38	10.62	10.82	10.42	11.04	64.93
60	11.17	34.20	13.29	53.38	10.62	10.82	10.42	11.04	26.75
61	16.30	34.20	22.00	53.38	10.62	10.82	10.42	11.04	3.01
62	16.30	34.20	13.29	53.38	10.62	10.82	10.42	11.04	-32.09
63	16.30	34.20	13.29	53.38	10.62	10.82	10.42	11.04	-32.09
64	20.00	34.20	13.92	53.38	10.62	10.82	10.42	11.04	-39.75
65	12.33	34.20	13.63	53.38	10.62	10.82	10.42	11.04	0.81
66	14.13	34.20	14.00	53.38	10.62	10.82	10.42	11.04	-14.41
67	16.30	34.20	16.25	53.38	10.62	10.82	10.42	11.04	-14.27
68	10.83	34.20	13.92	53.38	10.62	10.82	10.42	11.04	55.26
69	13.92	34.20	13.00	53.38	10.62	10.82	10.42	11.04	-21.12
70	13.92	34.20	13.92	53.38	10.62	10.82	10.42	11.04	-13.43
71	13.92	34.20	11.50	53.38	10.62	10.82	10.42	11.04	-43.01
72	11.00	34.20	13.92	53.38	10.62	10.82	10.42	11.04	40.85
73	13.92	34.20	13.92	53.38	10.62	10.82	10.42	11.04	-13.43
74	13.92	34.20	59.00	53.38	10.62	10.82	10.42	11.04	52.79
75	13.92	34.20	13.95	53.38	10.62	10.82	10.42	11.04	-13.21
76	13.92	34.20	13.95	53.38	10.62	10.82	10.42	11.04	-13.21
77	13.92	34.20	14.80	53.38	10.62	10.82	10.42	11.04	-7.80
78	10.91	34.20	15.67	53.38	10.62	10.82	10.42	11.04	58.18
79	13.92	34.20	13.95	53.38	10.62	10.82	10.42	11.04	-13.21
80	13.92	34.20	13.95	53.38	10.62	10.82	10.42	11.04	-13.21
81	13.92	34.20	11.00	53.38	10.62	10.82	10.42	11.04	-58.61

Table B.3B. Confocal microscopy data for resting membrane potential determination in differentiating Day 13 SH-SY5Y cells cultured in 2-D monolayer. Data was used to generate figure 4A.

Cell	$F_{in}^{10\ \%}$	$F_{out}^{100\ \%}$	$F_{In\_free}^{10\%}$	$F_{Out\_free}^{100\ \%}$	$B^{10\%}$	$B^{100\%}$	$B_{free}^{10\%}$	$B_{free}^{100\%}$	V_m
1	5.58	100.24	22.40	203.48	4.12	11.81	3.88	9.86	44.22
2	25.09	100.24	77.00	203.48	4.12	11.81	3.88	9.86	11.73
3	50.63	100.24	45.86	203.48	4.12	11.81	3.88	9.86	-22.32
4	28.50	100.24	25.00	203.48	4.12	11.81	3.88	9.86	-23.36
5	45.00	100.24	44.67	203.48	4.12	11.81	3.88	9.86	-19.80
6	21.11	100.24	45.86	203.48	4.12	11.81	3.88	9.86	3.05
7	25.09	100.24	19.31	203.48	4.12	11.81	3.88	9.86	-27.46
8	8.75	100.24	18.57	203.48	4.12	11.81	3.88	9.86	9.35
9	25.09	100.24	45.67	203.48	4.12	11.81	3.88	9.86	-2.37
10	9.78	100.24	19.33	203.48	4.12	11.81	3.88	9.86	5.55
11	9.78	100.24	12.97	203.48	4.12	11.81	3.88	9.86	-7.81
12	9.78	100.24	6.00	203.48	4.12	11.81	3.88	9.86	-44.52
13	45.88	100.24	59.50	203.48	4.12	11.81	3.88	9.86	-12.52
14	25.53	100.24	23.50	203.48	4.12	11.81	3.88	9.86	-21.93
15	9.10	100.24	19.29	203.48	4.12	11.81	3.88	9.86	8.71
16	28.00	100.24	19.29	203.48	4.12	11.81	3.88	9.86	-30.77
17	36.40	100.24	19.29	203.48	4.12	11.81	3.88	9.86	-38.37
18	36.40	100.24	38.00	203.48	4.12	11.81	3.88	9.86	-18.34
19	36.40	100.24	52.40	203.48	4.12	11.81	3.88	9.86	-9.47
20	36.40	100.24	52.92	203.48	4.12	11.81	3.88	9.86	-9.20
21	22.50	100.24	39.10	203.48	4.12	11.81	3.88	9.86	-3.36
22	40.04	100.24	34.00	203.48	4.12	11.81	3.88	9.86	-24.18
23	36.40	100.24	25.83	203.48	4.12	11.81	3.88	9.86	-29.45
24	23.66	100.24	25.83	203.48	4.12	11.81	3.88	9.86	-16.81
25	23.66	100.24	25.83	203.48	4.12	11.81	3.88	9.86	-16.81
26	17.02	100.24	33.00	203.48	4.12	11.81	3.88	9.86	0.76
27	23.66	100.24	24.83	203.48	4.12	11.81	3.88	9.86	-17.99
28	59.83	100.24	17.80	203.48	4.12	11.81	3.88	9.86	-54.68
29	23.66	100.24	41.82	203.48	4.12	11.81	3.88	9.86	-3.03
30	63.60	100.24	5.00	203.48	4.12	11.81	3.88	9.86	-119.87
31	23.66	100.24	11.19	203.48	4.12	11.81	3.88	9.86	-44.52
32	11.00	100.24	10.75	203.48	4.12	11.81	3.88	9.86	-19.78
33	26.02	100.24	10.38	203.48	4.12	11.81	3.88	9.86	-50.36
34	26.02	100.24	31.79	203.48	4.12	11.81	3.88	9.86	-13.63
35	9.81	100.24	16.33	203.48	4.12	11.81	3.88	9.86	-0.02
36	35.22	100.24	24.83	203.48	4.12	11.81	3.88	9.86	-29.69
37	35.50	100.24	56.83	203.48	4.12	11.81	3.88	9.86	-6.56
38	49.00	100.24	50.67	203.48	4.12	11.81	3.88	9.86	-18.69
39	20.00	100.24	35.39	203.48	4.12	11.81	3.88	9.86	-2.48
40	26.02	100.24	38.59	203.48	4.12	11.81	3.88	9.86	-8.14

Table B.3B. Continued.

Cell	$F_{in}^{10\ \%}$	$F_{out}^{100\ \%}$	$F_{In\_free}^{10\%}$	$F_{Out\_free}^{100\ \%}$	$B^{10\%}$	$B^{100\%}$	$B_{free}^{10\%}$	$B_{free}^{100\%}$	V_m
42	17.20	26.29	9.88	17.63	7.79	8.20	7.76	8.16	-21.30
43	11.95	26.29	8.69	17.63	7.79	8.20	7.76	8.16	-21.52
44	5.00	26.29	7.50	17.63	7.79	8.20	7.76	8.16	-43.53
45	11.95	26.29	8.69	17.63	7.79	8.20	7.76	8.16	-21.52
46	11.95	26.29	9.04	17.63	7.79	8.20	7.76	8.16	-13.45
47	11.95	26.29	9.04	17.63	7.79	8.20	7.76	8.16	-13.45
48	11.95	26.29	9.04	17.63	7.79	8.20	7.76	8.16	-13.45
49	11.95	26.29	9.04	17.63	7.79	8.20	7.76	8.16	-13.45
50	11.95	26.29	8.72	17.63	7.79	8.20	7.76	8.16	-20.58
51	11.95	26.29	8.72	17.63	7.79	8.20	7.76	8.16	-20.58
52	11.95	26.29	8.72	17.63	7.79	8.20	7.76	8.16	-20.58
53	11.95	26.29	8.72	17.63	7.79	8.20	7.76	8.16	-20.58
54	11.95	26.29	8.72	17.63	7.79	8.20	7.76	8.16	-20.58
55	11.95	26.29	8.50	17.63	7.79	8.20	7.76	8.16	-27.13
56	11.95	26.29	8.50	17.63	7.79	8.20	7.76	8.16	-27.13
57	11.95	26.29	8.50	17.63	7.79	8.20	7.76	8.16	-27.13
58	8.00	26.29	8.50	17.63	7.79	8.20	7.76	8.16	48.22
59	9.00	26.29	8.00	17.63	7.79	8.20	7.76	8.16	-24.39
60	11.24	26.29	8.50	17.63	7.79	8.20	7.76	8.16	-22.39
61	11.24	26.29	9.00	17.63	7.79	8.20	7.76	8.16	-9.44
62	11.24	26.29	8.86	17.63	7.79	8.20	7.76	8.16	-12.50
63	8.13	26.29	7.88	17.63	7.79	8.20	7.76	8.16	-10.46
64	9.00	26.29	8.86	17.63	7.79	8.20	7.76	8.16	13.88
65	6.33	26.29	7.18	17.63	7.79	8.20	7.76	8.16	-6.91
66	11.11	26.29	8.41	17.63	7.79	8.20	7.76	8.16	-24.56
67	11.11	26.29	8.41	17.63	7.79	8.20	7.76	8.16	-24.56
68	11.11	26.29	8.41	17.63	7.79	8.20	7.76	8.16	-24.56
69	8.88	26.29	8.41	17.63	7.79	8.20	7.76	8.16	3.62
70	11.43	51.61	9.13	15.64	7.89	8.21	7.73	7.75	19.59
71	11.43	51.61	8.48	15.64	7.89	8.21	7.73	7.75	4.06
72	11.43	51.61	8.48	15.64	7.89	8.21	7.73	7.75	4.06
73	11.43	51.61	8.48	15.64	7.89	8.21	7.73	7.75	4.06
74	11.43	51.61	8.48	15.64	7.89	8.21	7.73	7.75	4.06
75	11.43	51.61	8.48	15.64	7.89	8.21	7.73	7.75	4.06
76	10.00	51.61	7.75	15.64	7.89	8.21	7.73	7.75	-71.45
77	9.00	51.61	8.50	15.64	7.89	8.21	7.73	7.75	33.72
78	11.43	51.61	8.34	15.64	7.89	8.21	7.73	7.75	-1.06
79	8.50	51.61	8.80	15.64	7.89	8.21	7.73	7.75	56.99
80	11.43	51.61	8.34	15.64	7.89	8.21	7.73	7.75	-1.06
81	11.43	51.61	8.34	15.64	7.89	8.21	7.73	7.75	-1.06
82	11.43	51.61	8.34	15.64	7.89	8.21	7.73	7.75	-1.06
83	16.50	51.61	8.65	15.64	7.89	8.21	7.73	7.75	-13.28

Table B.3B. Continued.

Cell	$F_{in}^{10\ \%}$	$F_{out}^{100\ \%}$	$F_{In\_free}^{10\%}$	$F_{Out\_free}^{100\ \%}$	$B^{10\%}$	$B^{100\%}$	$B_{free}^{10\%}$	$B_{free}^{100\%}$	V_m
84	12.74	51.61	9.25	15.64	7.89	8.21	7.73	7.75	13.77
85	12.74	51.61	14.40	15.64	7.89	8.21	7.73	7.75	50.99
86	12.74	51.61	8.65	15.64	7.89	8.21	7.73	7.75	1.19
87	12.74	51.61	8.65	15.64	7.89	8.21	7.73	7.75	1.19
88	12.74	51.61	8.65	15.64	7.89	8.21	7.73	7.75	1.19
89	16.40	51.61	8.65	15.64	7.89	8.21	7.73	7.75	-12.98
90	16.50	51.61	8.25	15.64	7.89	8.21	7.73	7.75	-27.71
91	12.74	51.61	10.29	15.64	7.89	8.21	7.73	7.75	26.84
92	12.74	51.61	8.25	15.64	7.89	8.21	7.73	7.75	-13.24

Table B.3C. Confocal microscopy data for resting membrane potential determination in differentiating Day 2 SH-SY5Y cells cultured in 3-D collagen hydrogels. Data was used to generate figure 4A.

Cell	$F_{in}^{10\ \%}$	$F_{out}^{100\ \%}$	$F_{In\_free}^{10\%}$	$F_{Out\_free}^{100\ \%}$	$B^{10\%}$	$B^{100\%}$	$B_{free}^{10\%}$	$B_{free}^{100\%}$	V_m
1	14.90	17.09	28.77	35.58	8.13	9.74	8.27	10.31	-3.21
2	18.08	17.09	22.43	35.58	8.13	9.74	8.27	10.31	-22.24
3	9.94	17.09	26.72	35.58	8.13	9.74	8.27	10.31	27.43
4	10.49	17.09	11.69	35.58	8.13	9.74	8.27	10.31	-21.75
5	17.33	17.09	13.82	35.58	8.13	9.74	8.27	10.31	-43.86
6	12.54	17.09	17.88	35.58	8.13	9.74	8.27	10.31	-11.52
7	14.31	17.09	26.00	35.58	8.13	9.74	8.27	10.31	-4.59
8	10.64	17.09	29.94	35.58	8.13	9.74	8.27	10.31	23.22
9	17.13	17.09	26.17	35.58	8.13	9.74	8.27	10.31	-13.79
10	21.36	17.09	27.37	35.58	8.13	9.74	8.27	10.31	-21.88
11	13.58	17.09	10.50	35.58	8.13	9.74	8.27	10.31	-53.66
12	25.17	17.09	30.83	35.58	8.13	9.74	8.27	10.31	-24.06
13	11.57	17.09	9.21	35.58	8.13	9.74	8.27	10.31	-63.91
14	9.66	17.09	23.10	35.58	8.13	9.74	8.27	10.31	26.23
15	12.63	17.09	21.57	35.58	8.13	9.74	8.27	10.31	-3.83
16	28.23	17.09	13.37	35.58	8.13	9.74	8.27	10.31	-65.70
17	12.20	17.09	15.50	35.58	8.13	9.74	8.27	10.31	-16.66
18	10.23	17.09	17.50	35.58	8.13	9.74	8.27	10.31	6.21
19	14.15	17.09	26.50	35.58	8.13	9.74	8.27	10.31	-3.20
20	15.93	17.09	37.92	35.58	8.13	9.74	8.27	10.31	2.51
21	10.13	17.09	29.39	35.58	8.13	9.74	8.27	10.31	28.23
22	12.16	17.09	27.25	35.58	8.13	9.74	8.27	10.31	7.94
23	16.43	17.09	16.67	35.58	8.13	9.74	8.27	10.31	-30.83
24	11.90	17.09	30.58	35.58	8.13	9.74	8.27	10.31	13.67
25	12.50	17.09	25.28	35.58	8.13	9.74	8.27	10.31	3.12
26	19.42	17.09	34.58	35.58	8.13	9.74	8.27	10.31	-9.80
27	10.01	17.09	27.58	35.58	8.13	9.74	8.27	10.31	27.56
28	23.30	17.09	25.69	35.58	8.13	9.74	8.27	10.31	-27.64
29	11.49	17.09	12.50	35.58	8.13	9.74	8.27	10.31	-25.34
30	29.40	17.09	27.50	35.58	8.13	9.74	8.27	10.31	-33.66
31	11.35	17.09	28.75	35.58	8.13	9.74	8.27	10.31	15.47
32	10.06	17.09	33.11	35.58	8.13	9.74	8.27	10.31	33.30
33	14.53	17.09	32.14	35.58	8.13	9.74	8.27	10.31	2.05
34	9.70	17.09	26.13	35.58	8.13	9.74	8.27	10.31	30.13
35	10.89	17.09	24.63	35.58	8.13	9.74	8.27	10.31	13.75
36	14.02	17.09	32.59	35.58	8.13	9.74	8.27	10.31	4.60
37	14.27	17.09	29.11	35.58	8.13	9.74	8.27	10.31	-0.34
38	18.21	17.09	41.21	35.58	8.13	9.74	8.27	10.31	-1.28
39	9.75	17.09	24.83	35.58	8.13	9.74	8.27	10.31	27.54
40	11.71	17.09	16.67	35.58	8.13	9.74	8.27	10.31	-9.64

Table B.3C. Continued

Cell	$F_{in}^{10\ \%}$	$F_{out}^{100\ \%}$	$F_{In\_free}^{10\%}$	$F_{Out\_free}^{100\ \%}$	$B^{10\%}$	$B^{100\%}$	$B_{free}^{10\%}$	$B_{free}^{100\%}$	V_m
41	22.27	17.09	22.60	35.58	8.13	9.74	8.27	10.31	-30.78
42	11.54	17.09	31.55	35.58	8.13	9.74	8.27	10.31	17.26
43	18.11	17.09	29.12	35.58	8.13	9.74	8.27	10.31	-12.56
44	9.20	17.09	18.77	35.58	8.13	9.74	8.27	10.31	26.47
45	27.50	17.09	32.78	35.58	8.13	9.74	8.27	10.31	-25.20
46	4.81	21.60	10.42	40.89	3.87	7.87	4.25	10.54	27.60
47	6.17	21.60	15.06	40.89	3.87	7.87	4.25	10.54	19.07
48	4.54	21.60	8.76	40.89	3.87	7.87	4.25	10.54	28.35
49	20.04	21.60	8.08	40.89	3.87	7.87	4.25	10.54	-56.26
50	6.00	21.60	7.21	40.89	3.87	7.87	4.25	10.54	-11.62
51	8.42	21.60	9.00	40.89	3.87	7.87	4.25	10.54	-18.89
52	5.54	21.60	10.69	40.89	3.87	7.87	4.25	10.54	14.07
53	3.88	21.60	7.87	40.89	3.87	7.87	4.25	10.54	150.81
54	6.52	21.60	17.56	40.89	3.87	7.87	4.25	10.54	20.68
55	9.00	21.60	15.02	40.89	3.87	7.87	4.25	10.54	-1.28
56	5.84	21.60	12.46	40.89	3.87	7.87	4.25	10.54	16.07
57	14.47	21.60	26.08	40.89	3.87	7.87	4.25	10.54	-1.78
58	13.75	21.60	16.38	40.89	3.87	7.87	4.25	10.54	-14.81
59	10.48	21.60	16.88	40.89	3.87	7.87	4.25	10.54	-3.66
60	18.26	21.60	9.50	40.89	3.87	7.87	4.25	10.54	-45.37
61	18.76	21.60	14.21	40.89	3.87	7.87	4.25	10.54	-30.10
62	17.40	21.60	23.62	40.89	3.87	7.87	4.25	10.54	-10.93
63	4.06	21.60	22.29	40.89	3.87	7.87	4.25	10.54	95.08
64	5.19	21.60	26.00	40.89	3.87	7.87	4.25	10.54	50.59
65	15.00	21.60	6.86	40.89	3.87	7.87	4.25	10.54	-56.50
66	14.07	21.60	12.33	40.89	3.87	7.87	4.25	10.54	-25.82
67	8.40	21.60	14.10	40.89	3.87	7.87	4.25	10.54	-0.37
68	15.84	21.60	4.46	40.89	3.87	7.87	4.25	10.54	-121.50
69	9.04	21.60	5.08	40.89	3.87	7.87	4.25	10.54	-66.09
70	17.38	21.60	7.95	40.89	3.87	7.87	4.25	10.54	-52.60
71	20.65	21.60	6.42	40.89	3.87	7.87	4.25	10.54	-71.52
72	4.59	21.60	6.17	40.89	3.87	7.87	4.25	10.54	5.02
73	4.96	21.60	12.83	40.89	3.87	7.87	4.25	10.54	32.03
74	10.58	21.60	4.32	40.89	3.87	7.87	4.25	10.54	-136.04
75	146.98	21.60	5.94	40.89	3.87	7.87	4.25	10.54	-131.81
76	4.42	21.60	6.31	40.89	3.87	7.87	4.25	10.54	13.67
77	5.23	21.60	7.61	40.89	3.87	7.87	4.25	10.54	2.92
78	6.17	21.60	5.82	40.89	3.87	7.87	4.25	10.54	-29.44
79	12.34	23.51	11.89	30.08	9.98	10.66	10.52	11.44	-23.24
80	11.04	23.51	11.50	30.08	9.98	10.66	10.52	11.44	-11.28
81	19.00	23.51	11.89	30.08	9.98	10.66	10.52	11.44	-56.97
82	11.11	23.51	11.89	30.08	9.98	10.66	10.52	11.44	-4.72
83	11.83	23.51	11.89	30.08	9.98	10.66	10.52	11.44	-16.99

Table B.3C. Continued

Cell	$F_{in}^{10\ \%}$	$F_{out}^{100\ \%}$	$F_{In\_free}^{10\%}$	$F_{Out\ \_\ free}^{100\ \%}$	$B^{10\%}$	$B^{100\%}$	$B_{free}^{10\%}$	$B_{free}^{100\%}$	V_m
84	17.50	23.51	11.89	30.08	9.98	10.66	10.52	11.44	-52.39
85	11.79	23.51	11.08	30.08	9.98	10.66	10.52	11.44	-38.89
86	11.33	23.51	11.89	30.08	9.98	10.66	10.52	11.44	-9.17
87	11.79	23.51	11.89	30.08	9.98	10.66	10.52	11.44	-16.51
88	11.79	23.51	13.00	30.08	9.98	10.66	10.52	11.44	-1.45
89	11.00	23.51	11.89	30.08	9.98	10.66	10.52	11.44	-2.04
90	10.67	23.51	11.89	30.08	9.98	10.66	10.52	11.44	7.94
91	10.28	23.51	11.71	30.08	9.98	10.66	10.52	11.44	25.57
92	10.50	23.51	11.71	30.08	9.98	10.66	10.52	11.44	11.49
93	11.28	23.51	11.71	30.08	9.98	10.66	10.52	11.44	-11.63
94	11.00	23.51	11.71	30.08	9.98	10.66	10.52	11.44	-5.51
95	11.41	23.51	11.71	30.08	9.98	10.66	10.52	11.44	-13.99
96	10.00	23.51	13.17	30.08	9.98	10.66	10.52	11.44	115.14
97	11.41	23.51	11.71	30.08	9.98	10.66	10.52	11.44	-13.99
98	11.41	23.51	11.71	30.08	9.98	10.66	10.52	11.44	-13.99
99	20.20	23.51	11.71	30.08	9.98	10.66	10.52	11.44	-63.58
100	10.40	23.51	11.71	30.08	9.98	10.66	10.52	11.44	16.88
101	11.53	23.51	11.71	30.08	9.98	10.66	10.52	11.44	-15.99
102	11.00	23.51	12.05	30.08	9.98	10.66	10.52	11.44	0.77
103	10.00	23.51	12.05	30.08	9.98	10.66	10.52	11.44	101.25
104	11.53	23.51	12.05	30.08	9.98	10.66	10.52	11.44	-9.70
105	11.25	23.51	12.05	30.08	9.98	10.66	10.52	11.44	-4.75
106	10.67	23.51	12.29	30.25	9.98	10.66	10.52	11.44	14.27
107	11.50	23.51	12.29	30.25	9.98	10.66	10.52	11.44	-5.72
108	11.50	23.51	12.29	30.25	9.98	10.66	10.52	11.44	-5.72
109	12.29	23.51	12.29	30.25	9.98	10.66	10.52	11.44	-16.27
110	11.50	23.51	17.29	30.25	9.98	10.66	10.52	11.44	28.11
111	11.00	23.51	11.00	30.25	9.98	10.66	10.52	11.44	-28.70
112	11.50	23.51	12.29	30.25	9.98	10.66	10.52	11.44	-5.72
113	11.50	23.51	12.29	30.25	9.98	10.66	10.52	11.44	-5.72
114	11.50	23.51	12.29	30.25	9.98	10.66	10.52	11.44	-5.72
115	11.50	23.51	12.29	30.25	9.98	10.66	10.52	11.44	-5.72
116	11.50	23.51	12.29	30.25	9.98	10.66	10.52	11.44	-5.72
117	11.50	23.51	12.00	30.25	9.98	10.66	10.52	11.44	-10.24
118	11.50	23.51	17.50	30.25	9.98	10.66	10.52	11.44	28.87
119	10.50	23.51	12.29	30.25	9.98	10.66	10.52	11.44	21.29
120	11.21	23.51	11.00	30.25	9.98	10.66	10.52	11.44	-33.35
121	11.21	23.51	12.29	30.25	9.98	10.66	10.52	11.44	-0.35
122	11.33	23.51	12.15	30.25	9.98	10.66	10.52	11.44	-4.95
123	10.75	23.51	12.15	30.25	9.98	10.66	10.52	11.44	9.27
124	11.00	23.51	12.15	30.25	9.98	10.66	10.52	11.44	2.18
125	10.33	23.51	11.76	30.25	9.98	10.66	10.52	11.44	22.15
126	11.17	23.51	11.76	30.25	9.98	10.66	10.52	11.44	-8.42

Table B.3C. Continued

Cell	$F_{in}^{10\ \%}$	$F_{out}^{100\ \%}$	$F_{In\_free}^{10\%}$	$F_{Out\_free}^{100\ \%}$	$B^{10\%}$	$B^{100\%}$	$B_{free}^{10\%}$	$B_{free}^{100\%}$	V_m
127	11.21	23.51	11.76	30.25	9.98	10.66	10.52	11.44	-9.25
128	14.25	23.51	16.00	30.25	9.98	10.66	10.52	11.44	-3.30
129	11.21	23.51	12.03	30.25	9.98	10.66	10.52	11.44	-4.40
130	11.21	23.51	12.03	30.25	9.98	10.66	10.52	11.44	-4.40
131	11.09	23.51	12.03	30.25	9.98	10.66	10.52	11.44	-1.80
132	11.09	23.51	12.03	30.25	9.98	10.66	10.52	11.44	-1.80
133	11.09	23.51	16.36	30.25	9.98	10.66	10.52	11.44	32.36
134	11.09	23.51	24.50	30.25	9.98	10.66	10.52	11.44	54.33
135	11.09	23.51	12.03	30.25	9.98	10.66	10.52	11.44	-1.80
136	11.75	23.51	12.03	30.25	9.98	10.66	10.52	11.44	-13.65
137	11.09	23.51	12.03	30.25	9.98	10.66	10.52	11.44	-1.80
138	12.50	23.51	11.94	30.25	9.98	10.66	10.52	11.44	-24.15
139	10.95	23.51	11.94	30.25	9.98	10.66	10.52	11.44	-0.01
140	10.38	23.51	11.85	30.25	9.98	10.66	10.52	11.44	21.02
141	13.40	23.51	11.94	30.25	9.98	10.66	10.52	11.44	-31.85
142	10.50	23.51	11.94	30.25	9.98	10.66	10.52	11.44	15.64
143	10.95	23.51	11.94	30.25	9.98	10.66	10.52	11.44	-0.01

Table B.3D. Confocal microscopy data for resting membrane potential determination in differentiating Day 13 SH-SY5Y cells cultured in 3-D collagen hydrogels. Data was used to generate figure 4B.

Cell	$F_{in}^{10\ \%}$	$F_{out}^{100\ \%}$	$F_{In\_free}^{10\%}$	$F_{Out\_free}^{100\ \%}$	$B^{10\%}$	$B^{100\%}$	$B_{free}^{10\%}$	$B_{free}^{100\%}$	V_m
1	43.81	47.45	86.63	116.61	5.28	9.69	3.63	8.56	-7.15
2	20.40	47.45	29.33	116.61	5.28	9.69	3.63	8.56	-13.12
3	19.64	47.45	30.31	116.61	5.28	9.69	3.63	8.56	-10.88
4	43.30	47.45	10.98	116.61	5.28	9.69	3.63	8.56	-67.88
5	9.77	47.45	10.98	116.61	5.28	9.69	3.63	8.56	-14.06
6	8.50	47.45	11.10	116.61	5.28	9.69	3.63	8.56	-5.30
7	9.77	47.45	18.47	116.61	5.28	9.69	3.63	8.56	3.64
8	9.77	47.45	12.39	116.61	5.28	9.69	3.63	8.56	-9.65
9	16.00	47.45	55.25	116.61	5.28	9.69	3.63	8.56	13.11
10	34.00	47.45	30.31	116.61	5.28	9.69	3.63	8.56	-28.34
11	24.25	47.45	6.17	116.61	5.28	9.69	3.63	8.56	-77.18
12	9.77	47.45	16.42	116.61	5.28	9.69	3.63	8.56	-0.12
13	60.25	47.45	26.13	116.61	5.28	9.69	3.63	8.56	-48.99
14	62.89	47.45	43.67	116.61	5.28	9.69	3.63	8.56	-35.65
15	23.90	47.45	35.83	116.61	5.28	9.69	3.63	8.56	-12.69
16	24.20	47.45	30.17	116.61	5.28	9.69	3.63	8.56	-17.96
17	16.88	47.45	13.81	116.61	5.28	9.69	3.63	8.56	-29.77
18	24.38	47.45	13.81	116.61	5.28	9.69	3.63	8.56	-42.33
19	10.96	47.45	117.16	116.61	5.28	9.69	3.63	8.56	48.94
20	66.00	47.45	62.47	116.61	5.28	9.69	3.63	8.56	-27.27
21	7.73	47.45	24.46	116.61	5.28	9.69	3.63	8.56	27.40
22	5.94	47.45	18.27	116.61	5.28	9.69	3.63	8.56	51.62
23	13.47	47.45	16.00	116.61	5.28	9.69	3.63	8.56	-16.11
24	15.86	47.45	21.72	116.61	5.28	9.69	3.63	8.56	-12.97
25	31.50	47.45	9.85	116.61	5.28	9.69	3.63	8.56	-62.75
26	8.37	47.45	8.49	116.61	5.28	9.69	3.63	8.56	-15.06
27	11.00	47.45	17.64	116.61	5.28	9.69	3.63	8.56	-3.93
28	27.00	47.45	10.36	116.61	5.28	9.69	3.63	8.56	-55.99
29	10.49	47.45	30.83	116.61	5.28	9.69	3.63	8.56	15.13
30	24.50	47.45	17.25	116.61	5.28	9.69	3.63	8.56	-35.16
31	23.73	47.45	19.83	116.61	5.28	9.69	3.63	8.56	-29.75
32	17.25	47.45	64.91	116.61	5.28	9.69	3.63	8.56	14.65
33	9.90	62.69	118.91	214.84	5.73	11.61	6.18	12.06	48.32
34	11.03	62.69	77.44	214.84	5.73	11.61	6.18	12.06	30.72
35	57.52	62.69	149.24	214.84	5.73	11.61	6.18	12.06	-9.13
36	18.31	62.69	131.14	214.84	5.73	11.61	6.18	12.06	23.10
37	31.50	62.69	130.63	214.84	5.73	11.61	6.18	12.06	4.93
38	33.42	62.69	81.54	214.84	5.73	11.61	6.18	12.06	-9.51
39	52.21	62.69	120.33	214.84	5.73	11.61	6.18	12.06	-12.10
40	53.65	62.69	44.13	214.84	5.73	11.61	6.18	12.06	-40.61

Table B.3D. Continued

Cell	$F_{in}^{10\ \%}$	$F_{out}^{100\ \%}$	$F_{In\_free}^{10\%}$	$F_{Out\_free}^{100\ \%}$	$B^{10\%}$	$B^{100\%}$	$B_{free}^{10\%}$	$B_{free}^{100\%}$	V_m
41	58.50	62.69	90.33	214.84	5.73	11.61	6.18	12.06	-22.97
42	81.50	62.69	32.00	214.84	5.73	11.61	6.18	12.06	-61.85
43	11.08	62.69	30.09	214.84	5.73	11.61	6.18	12.06	2.97
44	8.71	62.69	63.20	214.84	5.73	11.61	6.18	12.06	39.57
45	19.36	62.69	94.17	214.84	5.73	11.61	6.18	12.06	12.24
46	46.74	62.69	91.75	214.84	5.73	11.61	6.18	12.06	-16.20
47	19.36	62.69	79.25	214.84	5.73	11.61	6.18	12.06	7.56
48	19.36	62.69	49.62	214.84	5.73	11.61	6.18	12.06	-5.54
49	32.75	62.69	49.62	214.84	5.73	11.61	6.18	12.06	-22.77
50	19.36	62.69	44.75	214.84	5.73	11.61	6.18	12.06	-8.53
51	20.50	62.69	39.50	214.84	5.73	11.61	6.18	12.06	-14.24
52	12.09	62.69	49.62	214.84	5.73	11.61	6.18	12.06	13.66
53	28.15	62.69	49.62	214.84	5.73	11.61	6.18	12.06	-18.07
54	10.76	62.69	69.00	214.84	5.73	11.61	6.18	12.06	28.89
55	10.76	62.69	33.17	214.84	5.73	11.61	6.18	12.06	7.61
56	99.50	62.69	17.73	214.84	5.73	11.61	6.18	12.06	-87.47
57	14.07	62.69	27.00	214.84	5.73	11.61	6.18	12.06	-11.68
58	13.88	62.69	47.83	214.84	5.73	11.61	6.18	12.06	6.38
59	39.00	62.69	51.75	214.84	5.73	11.61	6.18	12.06	-26.80
60	6.00	62.69	82.38	214.84	5.73	11.61	6.18	12.06	107.33
61	22.50	62.69	101.54	214.84	5.73	11.61	6.18	12.06	9.05
62	40.00	62.69	48.88	214.84	5.73	11.61	6.18	12.06	-29.19
63	20.92	62.69	93.56	214.84	5.73	11.61	6.18	12.06	9.35
64	12.73	62.69	58.88	214.84	5.73	11.61	6.18	12.06	16.10
65	60.56	62.69	48.97	214.84	5.73	11.61	6.18	12.06	-40.97
66	11.44	62.69	30.33	214.84	5.73	11.61	6.18	12.06	1.61
67	22.25	62.69	48.97	214.84	5.73	11.61	6.18	12.06	-10.76
68	11.98	62.69	37.63	214.84	5.73	11.61	6.18	12.06	5.96
69	12.90	62.69	48.97	214.84	5.73	11.61	6.18	12.06	10.28
70	12.90	62.69	34.00	214.84	5.73	11.61	6.18	12.06	-0.56
71	7.13	16.77	6.33	28.79	7.94	9.01	7.63	8.87	-11.97
72	9.10	16.77	8.20	28.79	7.94	9.01	7.63	8.87	-41.97
73	9.92	16.77	23.00	28.79	7.94	9.01	7.63	8.87	27.87
74	8.60	16.77	8.43	28.79	7.94	9.01	7.63	8.87	-18.89
75	22.54	16.77	8.43	28.79	7.94	9.01	7.63	8.87	-96.79
76	8.17	16.77	8.42	28.79	7.94	9.01	7.63	8.87	7.27
77	8.00	16.77	8.43	28.79	7.94	9.01	7.63	8.87	40.51
78	8.17	16.77	8.73	28.79	7.94	9.01	7.63	8.87	15.68
79	9.00	16.77	8.73	28.79	7.94	9.01	7.63	8.87	-22.94
80	8.63	16.77	8.33	28.79	7.94	9.01	7.63	8.87	-23.31
81	8.63	16.77	8.38	28.79	7.94	9.01	7.63	8.87	-21.86
82	8.63	16.77	8.00	28.79	7.94	9.01	7.63	8.87	-39.50
83	8.17	16.77	8.78	28.79	7.94	9.01	7.63	8.87	16.90

Table B.3D. Continued

Cell	$F_{in}^{10\ \%}$	$F_{out}^{100\ \%}$	$F_{In\_free}^{10\%}$	$F_{Out\_free}^{100\ \%}$	$B^{10\%}$	$B^{100\%}$	$B_{free}^{10\%}$	$B_{free}^{100\%}$	V_m
84	8.63	16.77	8.78	28.79	7.94	9.01	7.63	8.87	-10.86
85	7.75	16.77	7.50	28.79	7.94	9.01	7.63	8.87	-32.87
86	8.55	16.77	8.78	28.79	7.94	9.01	7.63	8.87	-7.66
87	8.63	16.77	8.78	28.79	7.94	9.01	7.63	8.87	-10.86
88	8.63	16.77	8.78	28.79	7.94	9.01	7.63	8.87	-10.86
89	8.63	16.77	8.78	28.79	7.94	9.01	7.63	8.87	-10.86
90	8.63	16.77	8.78	28.79	7.94	9.01	7.63	8.87	-10.86
91	8.63	16.77	9.00	28.79	7.94	9.01	7.63	8.87	-6.51
92	8.63	16.77	13.00	28.79	7.94	9.01	7.63	8.87	27.91
93	8.63	16.77	9.19	28.79	7.94	9.01	7.63	8.87	-3.31
94	9.00	16.77	9.19	28.79	7.94	9.01	7.63	8.87	-14.18
95	8.00	16.77	8.00	28.79	7.94	9.01	7.63	8.87	20.92
96	8.63	16.77	9.19	28.79	7.94	9.01	7.63	8.87	-3.31
97	8.75	16.77	8.00	28.79	7.94	9.01	7.63	8.87	-43.61
98	13.50	16.77	13.70	28.79	7.94	9.01	7.63	8.87	-21.56
99	8.63	16.77	9.19	28.79	7.94	9.01	7.63	8.87	-3.31
100	8.83	16.77	9.19	28.79	7.94	9.01	7.63	8.87	-9.88
101	9.38	16.77	9.19	28.79	7.94	9.01	7.63	8.87	-21.81
102	9.38	16.77	7.80	28.79	7.94	9.01	7.63	8.87	-77.62
103	9.38	16.77	15.39	28.79	7.94	9.01	7.63	8.87	18.69
104	8.42	16.77	8.00	28.79	7.94	9.01	7.63	8.87	-30.31
105	9.38	16.77	8.95	28.79	7.94	9.01	7.63	8.87	-25.99
106	8.27	16.77	8.80	28.79	7.94	9.01	7.63	8.87	7.79
107	9.38	16.77	8.80	28.79	7.94	9.01	7.63	8.87	-28.88
108	12.50	16.77	8.00	28.79	7.94	9.01	7.63	8.87	-87.07
109	8.64	16.21	17.55	47.56	7.74	8.71	7.60	9.01	19.21
110	8.64	16.21	30.00	47.56	7.74	8.71	7.60	9.01	39.67
111	8.64	16.21	10.67	47.56	7.74	8.71	7.60	9.01	-10.40
112	9.31	16.21	10.67	47.56	7.74	8.71	7.60	9.01	-24.30
113	9.29	16.21	10.67	47.56	7.74	8.71	7.60	9.01	-24.03
114	9.29	16.21	9.95	47.56	7.74	8.71	7.60	9.01	-30.80
115	9.29	16.21	12.54	47.56	7.74	8.71	7.60	9.01	-12.04
116	9.29	16.21	12.54	47.56	7.74	8.71	7.60	9.01	-12.04
117	9.29	16.21	12.54	47.56	7.74	8.71	7.60	9.01	-12.04
118	9.84	16.21	12.54	47.56	7.74	8.71	7.60	9.01	-19.65
119	9.84	16.21	12.54	47.56	7.74	8.71	7.60	9.01	-19.65
120	9.84	16.21	12.54	47.56	7.74	8.71	7.60	9.01	-19.65
121	9.84	16.21	12.54	47.56	7.74	8.71	7.60	9.01	-19.65
122	8.00	16.21	12.54	47.56	7.74	8.71	7.60	9.01	33.11
123	9.84	16.21	12.54	47.56	7.74	8.71	7.60	9.01	-19.65
124	8.50	16.21	12.54	47.56	7.74	8.71	7.60	9.01	5.97
125	9.84	16.21	12.54	47.56	7.74	8.71	7.60	9.01	-19.65
126	10.38	16.21	12.54	47.56	7.74	8.71	7.60	9.01	-25.44

Table B.3D. Continued

Cell	$F_{in}^{10\ \%}$	$F_{out}^{100\ \%}$	$F_{In\_free}^{10\%}$	$F_{Out\_free}^{100\ \%}$	$B^{10\%}$	$B^{100\%}$	$B_{free}^{10\%}$	$B_{free}^{100\%}$	V_m
127	10.38	16.21	20.50	47.56	7.74	8.71	7.60	9.01	-1.26
128	10.38	16.21	10.91	47.56	7.74	8.71	7.60	9.01	-35.56
129	10.38	16.21	10.91	47.56	7.74	8.71	7.60	9.01	-35.56
130	10.38	16.21	10.91	47.56	7.74	8.71	7.60	9.01	-35.56
131	10.38	16.21	12.09	47.56	7.74	8.71	7.60	9.01	-27.84
132	11.86	16.21	14.57	47.56	7.74	8.71	7.60	9.01	-27.96
133	39.40	16.21	47.00	47.56	7.74	8.71	7.60	9.01	-35.73
134	26.00	16.21	12.68	47.56	7.74	8.71	7.60	9.01	-73.49
135	11.86	16.21	11.30	47.56	7.74	8.71	7.60	9.01	-43.91
136	11.86	16.21	11.30	47.56	7.74	8.71	7.60	9.01	-43.91
137	11.86	16.21	11.30	47.56	7.74	8.71	7.60	9.01	-43.91
138	11.86	16.21	11.30	47.56	7.74	8.71	7.60	9.01	-43.91
139	11.86	16.21	11.30	47.56	7.74	8.71	7.60	9.01	-43.91
140	11.86	16.21	8.67	47.56	7.74	8.71	7.60	9.01	-75.30
141	9.30	16.21	8.06	47.56	7.74	8.71	7.60	9.01	-72.39
142	12.75	16.21	10.14	47.56	7.74	8.71	7.60	9.01	-58.32
143	9.30	16.21	8.00	47.56	7.74	8.71	7.60	9.01	-75.69
144	9.30	16.21	10.14	47.56	7.74	8.71	7.60	9.01	-28.97
145	9.30	16.21	10.25	47.56	7.74	8.71	7.60	9.01	-27.94
146	9.30	16.21	29.67	47.56	7.74	8.71	7.60	9.01	25.46

Table B.4A. Calcium Dynamics data for differentiating Day 2 SH-SY5Y cells cultured in 2-D monolayer. Data was used to generate Table 1.

Time (sec)	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5	Cell 6	Cell 7	Cell 8	Cell 9	Cell 10	Cell 11
0	13.68	15.17	13.84	13.03	20.93	19.36	15.19	27.50	13.68	11.55	10.98
21	18.04	11.58	13.64	14.02	21.27	19.75	16.59	20.38	14.69	12.45	11.54
42	18.04	14.88	11.60	13.71	18.52	19.33	15.71	18.31	16.90	13.36	10.63
63	20.46	13.71	14.89	11.45	19.61	18.28	16.79	15.25	17.32	11.91	11.02
84	14.18	11.79	13.24	12.23	22.38	23.39	19.14	28.75	13.58	13.18	12.71
105	16.36	14.38	12.40	12.54	18.07	20.94	19.34	19.63	14.37	13.27	17.02
126	19.64	16.08	15.71	12.43	21.61	24.72	18.59	16.38	14.00	13.82	11.85
147	18.57	12.04	16.87	13.74	21.91	16.00	21.50	15.44	16.32	13.09	13.46
168	17.68	14.08	13.98	12.86	23.02	25.69	15.91	15.31	16.05	13.91	14.83
189	14.07	12.29	13.84	13.99	16.55	17.36	15.38	14.94	16.82	9.09	12.44
210	19.71	14.04	10.27	14.21	22.38	18.83	18.10	19.31	14.35	12.18	11.96
231	13.54	14.29	10.89	14.96	22.18	21.08	16.38	18.31	15.97	8.64	10.25
252	18.25	20.04	11.11	15.32	20.57	22.75	16.03	22.69	13.48	7.55	12.65
273	24.07	11.25	13.64	12.40	19.04	22.67	20.33	24.31	14.79	11.91	12.60
294	16.54	13.29	12.31	14.61	19.73	12.56	15.57	14.50	13.95	12.91	10.33
315	16.57	14.71	10.87	12.67	19.96	24.64	17.28	23.38	12.13	6.36	14.52
336	16.93	11.79	14.40	11.47	18.91	20.42	16.62	17.63	14.66	12.91	11.60
357	20.00	16.17	18.89	15.33	33.75	20.69	13.45	19.00	29.85	9.27	10.08
378	18.82	10.71	29.09	14.78	19.77	27.86	20.03	14.19	46.97	11.00	11.54
399	17.50	18.46	25.24	12.53	21.84	27.72	23.10	12.81	31.85	8.36	10.58
420	15.89	17.75	19.69	11.86	19.46	26.64	26.33	12.94	37.27	10.91	13.58
441	14.39	11.50	24.69	16.16	19.71	23.86	21.07	16.25	24.65	16.55	10.42
462	17.14	11.46	22.24	12.90	18.25	24.53	20.09	18.31	28.40	10.45	13.77
483	17.86	11.00	23.22	12.64	17.21	25.92	23.07	14.00	27.76	13.45	11.29
504	16.21	11.79	22.04	14.09	19.55	22.83	23.48	17.31	21.74	12.27	12.15
525	18.93	8.75	22.76	14.50	18.93	25.61	20.02	16.63	24.63		
546	16.75	8.08	28.93	15.15	18.64	26.50	17.52	15.88	18.40		
567	15.71	8.33	26.69	14.96	19.88	24.25	21.64	18.63	13.02		

Table B.4A. Continued.

Time (sec)	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21	Cell 22
0	14.86	12.17	8.26	13.67	13.53	10.12	12.61	14.43	13.36	9.67	12.50
21	15.60	11.78	7.95	13.78	14.86	9.11	12.39	14.63	11.54	14.33	15.00
42	13.53	10.94	8.37	10.59	15.58	9.35	14.13	12.81	12.63	13.83	11.71
63	15.42	10.50	7.12	14.83	13.39	8.96	12.22	12.83	13.39	13.33	9.71
84	12.82	11.10	7.08	15.96	15.22	9.94	11.59	15.04	12.36	16.33	14.32
105	11.47	12.41	6.41	17.52	14.25	8.88	12.66	12.43	13.82	15.41	14.21
126	11.30	12.73	8.02	17.24	13.58	10.05	12.10	11.07	13.02	12.63	10.93
147	13.61	11.03	6.99	14.54	15.03	9.62	12.44	15.63	12.21	13.02	11.57
168	12.02	11.25	6.94	17.57	11.31	9.96	11.85	12.85	11.88	12.30	11.68
189	11.93	10.78	7.74	13.83	10.50	9.93	13.19	16.22	12.55	14.17	12.32
210	12.39	11.80	8.49	13.48	10.83	9.64	13.50	12.00	12.57	15.33	10.04
231	12.04	12.30	7.59	10.87	15.50	9.72	13.68	11.83	13.85	10.33	9.96
252	12.91	11.23	8.56	14.67	13.86	9.55	12.71	13.80	12.03	14.24	16.32
273	10.70	12.83	7.03	12.11	14.47	9.59	11.60	13.74	11.95	17.39	12.39
294	14.33	10.07	6.20	12.02	13.97	9.24	12.82	14.44	10.42	15.85	9.96
315	11.61	11.53	6.68	14.48	13.89	9.46	13.36	12.33	11.47	16.15	10.00
336	12.11	11.30	8.42	14.20	14.78	9.59	12.04	11.89	10.01	12.26	9.68
357	9.95	11.95	7.49	10.57	13.19	9.60	11.57	13.24	10.88	12.78	12.86
378	12.05	12.88	6.40	16.48	16.83	9.69	12.66	13.11	9.44	14.17	11.07
399	11.82	11.38	7.36	14.74	17.67	10.07	11.40	12.07	11.25	14.89	13.82
420	11.60	9.18	7.44	12.35	14.72	9.37	12.14	12.44	11.99	14.87	10.25
441	10.84	9.43	7.26	13.65	15.22	8.30	11.46	10.76	10.89	12.28	12.18
462	10.32	11.42	6.43	11.98	14.75	9.23	10.87	13.30	9.06	10.09	
483	11.96	11.06	7.08	15.04	10.89	9.97	11.69	15.44	10.81	14.15	
504	12.23	11.18	7.23	13.20	11.83	9.33	12.08	15.04	10.25	16.59	

Table B.4A. Continued.

Time (sec)	Cell 23	Cell 24	Cell 25	Cell 26	Cell 27	Cell 28	Cell 29	Cell 30	Cell 31	Cell 32	Cell 33
0	16.34	10.03	16.11	16.35	15.82	23.46	23.21	8.62	10.50	20.88	15.29
21	14.68	14.59	17.19	13.13	14.13	24.46	25.45	15.38	13.93	26.42	14.50
42	21.34	12.97	14.30	12.17	17.84	28.50	25.48	12.38	12.50	18.04	20.17
63	18.23	13.48	14.30	14.29	15.69	21.46	22.34	10.88	10.43	22.92	20.42
84	21.52	12.86	16.00	13.81	17.09	17.38	20.97	7.81	13.32	18.79	15.83
105	22.43	15.03	14.72	16.79	15.67	21.83	15.97	10.50	12.61	25.46	14.71
126	19.14	16.72	12.93	10.83	14.56	20.88	22.93	10.65	11.89	19.00	15.67
147	19.16	19.14	16.53	11.44	13.40	18.33	22.14	11.12	10.71	26.63	13.88
168	17.52	15.21	15.70	12.46	16.84	23.25	20.17	9.85	14.29	21.17	19.38
189	16.95	12.62	14.55	13.27	13.04	23.04	25.83	8.50	13.68	21.63	13.33
210	20.73	11.90	15.95	13.96	18.93	26.38	24.07	12.81	10.93	24.17	23.29
231	17.36	17.69	17.68	15.98	16.91	20.42	25.86	12.35	13.07	18.88	15.88
252	18.34	22.14	18.14	13.67	14.89	16.83	16.86	8.27	16.21	15.71	15.83
273	18.32	12.72	11.03	14.40	14.29	16.71	21.69	6.96	22.61	19.04	18.67
294	21.73	10.55	11.64	12.38	15.51	24.42	22.86	9.62	19.96	18.46	18.25
315	16.95	14.07	13.26	13.13	14.09	20.29	19.86	9.58	20.07	18.21	16.67
336	16.70	15.00	13.84	11.48	11.76	19.13	22.17	11.85	18.46	20.79	15.33
357	14.73	14.03	13.31	10.75	15.64	18.88	15.38	10.62	20.54	20.54	17.38
378	16.75	14.69	13.55	11.77	15.64	13.63	20.62	8.50	20.82	19.50	15.17
399	16.18	10.83	12.03	14.04	15.53	13.96	20.00	10.88	22.82	22.54	14.75
420	19.20	10.59	14.19	14.35	13.00	19.96	15.62	8.65	24.43	19.33	11.08
441	19.64	13.45	12.96	12.75	13.24	14.04	17.59	12.42	18.64	18.58	18.08
462	16.34	10.03	16.11	16.35	15.82	23.46	23.21	8.62	10.50	20.88	15.29
483	14.68	14.59	17.19	13.13	14.13	24.46	25.45	15.38	13.93	26.42	14.50
504	21.34	12.97	14.30	12.17	17.84	28.50	25.48	12.38	12.50	18.04	20.17

Table B.4A. Continued.

Time (sec)	Cell 34	Cell 35	Cell 36	Cell 37	Cell 38	Cell39	Cell 40	Cell 41	Cell 42	Cell 43	Cell 44
0	56.13	59.61	20.42	60.45	62.26	23.15	21.00	21.00	6.80	32.42	24.38
21	68.38	52.72	18.71	61.45	59.41	25.54	23.96	22.50	60.20	41.63	40.13
42	50.17	44.28	16.74	79.00	49.61	24.35	26.38	21.78	37.80	38.79	29.50
63	66.67	73.78	69.23	66.55	50.52	25.08	27.13	35.06	35.80	32.83	67.38
84	67.88	89.61	74.32	96.82	102.13	74.73	44.17	33.39	52.40	34.79	38.75
105	56.58	105.78	64.00	85.00	104.89	69.42	52.71	53.22	35.80	36.08	47.13
126	53.63	108.61	56.94	62.36	106.33	81.81	43.08	33.61	61.20	43.75	36.38
147	60.21	123.17	62.55	97.82	111.78	80.46	38.21	35.56	66.20	37.13	62.75
168	49.29	84.61	65.87	79.73	93.83	59.08	29.58	41.67	47.80	39.83	39.13
189	54.08	110.72	50.39	75.55	88.22	72.04	39.29	39.44	55.00	29.04	56.75
210	59.17	88.44	55.65	79.82	93.54	61.96	46.33	37.83	50.60	30.83	73.88
231	54.92	104.39	53.13	66.91	94.67	71.35	37.42	37.83	25.60	29.83	61.75
252	60.92	96.89	50.48	49.27	95.07	67.46	47.88	35.83	35.80	45.33	35.38
273	56.21	86.50	34.68	78.91	89.39	68.73	45.67	47.50	41.00	43.00	66.25
294	43.46	95.33	44.06	76.55	88.91	70.04	45.92	53.22	36.60	35.88	70.13
315	58.79	70.22	45.29	50.27	105.61	71.58	44.88	43.61	40.60	44.38	58.00
336	41.88	88.67	36.87	66.55	90.24	76.38	49.96	44.50	45.00	29.08	44.88
357	60.38	82.22	43.19	59.00	97.46	82.08	38.46	48.11	67.20	29.96	44.63
378	40.54	84.89	51.39	55.82	102.91	66.65	46.71	38.78	56.00	26.54	41.13

Table B.4A. Continued.

Time (sec)	Cell 45	Cell 46	Cell 47	Cell 48	Cell 49	Cell 50
0	65.20	60.70	18.35	65.76	91.13	178.49
21	70.07	108.00	29.85	65.65	108.73	194.77
42	74.37	122.40	22.95	70.29	84.20	202.51
63	57.43	90.00	86.30	99.18	138.40	83.54
84	52.13	91.50	103.75	97.12	124.80	87.21
105	65.03	103.00	97.65	96.47	115.10	88.67
126	76.47	55.30	104.15	101.35	134.87	83.54
147	59.77	75.70	95.40	102.59	130.93	76.38
168	63.67	80.20	89.45	111.76	89.17	83.72
189	66.43	99.40	82.15	91.18	91.30	77.38
210	53.80	59.00	75.35	79.00	91.33	81.15
231	54.37	86.40	85.40	100.35	91.67	67.51
252	57.57	80.80	95.40	115.12	77.60	80.10
273	55.37	73.00	86.25	87.71	80.63	80.33
294	69.87	86.90	80.20	96.29	91.13	85.64
315	58.93	93.60	77.10	99.12	71.73	57.31
336	52.67	72.80	68.45	77.76	85.20	69.15
357	51.13	72.80	60.90	79.71	87.33	81.33
378	61.60	88.10	69.80	77.18	85.67	75.44

Table B.4A. Continued.

Time (sec)	Cell 51	Cell 52	Cell 53	Cell 54	Cell 55	Cell 56	Cell 57	Cell 58	Cell 59	Cell 60	Cell 61
0	15.06	15.06	15.06	15.06	31.50	23.00	15.06	32.00	14.00	30.83	14.12
3	14.97	14.97	14.97	14.97	22.00	21.50	14.97	19.00	11.00	31.00	14.12
6	14.96	14.96	14.96	14.96	21.50	33.00	14.96	65.00	11.75	36.33	14.09
9	14.90	14.90	14.90	14.90	33.00	25.00	14.90	32.00	10.50	35.42	14.08
12	14.88	14.88	14.88	14.88	29.63	30.50	14.88	62.00	12.00	34.58	14.04
15	14.87	14.87	14.87	14.87	23.13	21.50	14.87	22.00	20.50	32.50	14.02
18	14.84	14.84	14.84	14.84	30.38	30.50	14.84	27.00	12.50	36.92	14.04
21	14.86	14.86	14.86	14.86	21.13	40.00	14.86	20.00	23.25	36.75	14.01
24	14.85	14.85	14.85	14.85	29.38	22.00	14.85	11.00	15.00	31.25	13.99
27	14.83	14.83	14.83	14.83	25.50	10.00	14.83	50.00	30.25	27.50	13.97
30	14.78	14.78	14.78	14.78	34.38	12.00	14.78	11.00	12.25	32.25	13.95
33	14.79	14.79	14.79	14.79	16.63	64.50	14.79	17.00	17.25	28.83	13.94
36	14.76	14.76	14.76	14.76	21.25	19.00	14.76	11.00	12.75	35.58	13.93
39	14.73	14.73	14.73	14.73	28.88	26.00	14.73	25.00	16.75	33.92	13.93
42	14.70	14.70	14.70	14.70	21.75	26.50	14.70	6.00	15.50	24.00	13.94
45	14.68	14.68	14.68	14.68	18.00	20.00	14.68	35.00	11.50	30.42	13.91
48	14.66	14.66	14.66	14.66	32.25	17.50	14.66	11.00	11.75	24.25	13.87
51	14.61	14.61	14.61	14.61	19.38	15.00	14.61	15.00	11.50	32.33	13.90
54	14.59	14.59	14.59	14.59	28.50	43.50	14.59	12.00	13.75	35.50	13.86
57	14.57	14.57	14.57	14.57	20.63	23.50	14.57	83.00	12.00	33.67	13.86
60	14.52	14.52	14.52	14.52	14.50	21.50	14.52	14.00	22.50	32.08	13.84
63	14.51	14.51	14.51	14.51	15.38	54.50	14.51	9.00	11.00	34.17	13.85
66	14.54	14.54	14.54	14.54	21.88	10.50	14.54	9.00	30.50	26.83	13.84
69	14.54	14.54	14.54	14.54	23.63	12.50	14.54	11.00	10.75	31.25	13.84
72	14.55	14.55	14.55	14.55	17.88	15.00	14.55	11.00	12.00	31.33	13.79
75	14.52	14.52	14.52	14.52	31.75	11.00	14.52	10.00	12.00	33.25	13.80
78	14.51	14.51	14.51	14.51	18.88	17.50	14.51	12.00	13.50	37.83	13.78
81	14.51	14.51	14.51	14.51	21.50	47.50	14.51	21.00	18.25	25.17	13.77
84	14.52	14.52	14.52	14.52	36.13	11.50	14.52	51.00	12.50	41.83	13.75
87	14.53	14.53	14.53	14.53	25.88	25.00	14.53	19.00	11.25	31.58	13.76
90	14.49	14.49	14.49	14.49	13.50	16.50	14.49	21.00	10.50	39.67	13.72
93	14.48	14.48	14.48	14.48	24.63	35.50	14.48	64.00	10.25	32.25	13.69
96	14.67	14.67	14.67	14.67	28.75	13.50	14.67	41.00	10.75	31.83	13.96
99	14.76	14.76	14.76	14.76	13.88	17.00	14.76	10.00	11.25	32.67	14.55
102	14.65	14.65	14.65	14.65	17.50	10.00	14.65	11.00	14.75	47.25	14.72
105	14.43	14.43	14.43	14.43	32.50	15.00	14.43	10.00	14.75	47.92	14.80
108	14.23	14.23	14.23	14.23	24.25	10.50	14.23	11.00	16.50	36.42	14.75
111	14.02	14.02	14.02	14.02	22.75	10.50	14.02	10.00	12.00	39.42	14.65
114	13.92	13.92	13.92	13.92	23.50	10.00	13.92	10.00	10.75	36.50	14.57
117	13.90	13.90	13.90	13.90	27.88	11.00	13.90	11.00	10.50	29.33	14.51
120	13.92	13.92	13.92	13.92	23.00	10.00	13.92	10.00	17.25	19.42	14.47
123	13.95	13.95	13.95	13.95	22.25	23.00	13.95	10.00	11.50	36.42	14.49
126	13.94	13.94	13.94	13.94	18.25	11.00	13.94	10.00	12.00	24.17	14.40
129	13.94	13.94	13.94	13.94	18.00	10.50	13.94	12.00	11.00	25.42	14.26
132	13.94	13.94	13.94	13.94	20.88	11.00	13.94	28.00	10.25	30.50	14.14
135	13.93	13.93	13.93	13.93	23.75	31.00	13.93	25.00	12.00	31.17	14.15

Table B.4A. Continued.

Time (sec)	Cell 51	Cell 52	Cell 53	Cell 54	Cell 55	Cell 56	Cell 57	Cell 58	Cell 59	Cell 60	Cell 61
0	15.06	15.06	15.06	15.06	31.50	23.00	15.06	32.00	14.00	30.83	14.12
3	14.97	14.97	14.97	14.97	22.00	21.50	14.97	19.00	11.00	31.00	14.12
6	14.96	14.96	14.96	14.96	21.50	33.00	14.96	65.00	11.75	36.33	14.09
9	14.90	14.90	14.90	14.90	33.00	25.00	14.90	32.00	10.50	35.42	14.08
12	14.88	14.88	14.88	14.88	29.63	30.50	14.88	62.00	12.00	34.58	14.04
15	14.87	14.87	14.87	14.87	23.13	21.50	14.87	22.00	20.50	32.50	14.02
18	14.84	14.84	14.84	14.84	30.38	30.50	14.84	27.00	12.50	36.92	14.04
21	14.86	14.86	14.86	14.86	21.13	40.00	14.86	20.00	23.25	36.75	14.01
24	14.85	14.85	14.85	14.85	29.38	22.00	14.85	11.00	15.00	31.25	13.99
27	14.83	14.83	14.83	14.83	25.50	10.00	14.83	50.00	30.25	27.50	13.97
30	14.78	14.78	14.78	14.78	34.38	12.00	14.78	11.00	12.25	32.25	13.95
33	14.79	14.79	14.79	14.79	16.63	64.50	14.79	17.00	17.25	28.83	13.94
36	14.76	14.76	14.76	14.76	21.25	19.00	14.76	11.00	12.75	35.58	13.93
39	14.73	14.73	14.73	14.73	28.88	26.00	14.73	25.00	16.75	33.92	13.93
42	14.70	14.70	14.70	14.70	21.75	26.50	14.70	6.00	15.50	24.00	13.94
45	14.68	14.68	14.68	14.68	18.00	20.00	14.68	35.00	11.50	30.42	13.91
48	14.66	14.66	14.66	14.66	32.25	17.50	14.66	11.00	11.75	24.25	13.87
51	14.61	14.61	14.61	14.61	19.38	15.00	14.61	15.00	11.50	32.33	13.90
54	14.59	14.59	14.59	14.59	28.50	43.50	14.59	12.00	13.75	35.50	13.86
57	14.57	14.57	14.57	14.57	20.63	23.50	14.57	83.00	12.00	33.67	13.86
60	14.52	14.52	14.52	14.52	14.50	21.50	14.52	14.00	22.50	32.08	13.84
63	14.51	14.51	14.51	14.51	15.38	54.50	14.51	9.00	11.00	34.17	13.85
66	14.54	14.54	14.54	14.54	21.88	10.50	14.54	9.00	30.50	26.83	13.84
69	14.54	14.54	14.54	14.54	23.63	12.50	14.54	11.00	10.75	31.25	13.84
72	14.55	14.55	14.55	14.55	17.88	15.00	14.55	11.00	12.00	31.33	13.79
75	14.52	14.52	14.52	14.52	31.75	11.00	14.52	10.00	12.00	33.25	13.80
78	14.51	14.51	14.51	14.51	18.88	17.50	14.51	12.00	13.50	37.83	13.78
81	14.51	14.51	14.51	14.51	21.50	47.50	14.51	21.00	18.25	25.17	13.77
84	14.52	14.52	14.52	14.52	36.13	11.50	14.52	51.00	12.50	41.83	13.75
87	14.53	14.53	14.53	14.53	25.88	25.00	14.53	19.00	11.25	31.58	13.76
90	14.49	14.49	14.49	14.49	13.50	16.50	14.49	21.00	10.50	39.67	13.72
93	14.48	14.48	14.48	14.48	24.63	35.50	14.48	64.00	10.25	32.25	13.69
96	14.67	14.67	14.67	14.67	28.75	13.50	14.67	41.00	10.75	31.83	13.96
99	14.76	14.76	14.76	14.76	13.88	17.00	14.76	10.00	11.25	32.67	14.55
102	14.65	14.65	14.65	14.65	17.50	10.00	14.65	11.00	14.75	47.25	14.72
105	14.43	14.43	14.43	14.43	32.50	15.00	14.43	10.00	14.75	47.92	14.80
108	14.23	14.23	14.23	14.23	24.25	10.50	14.23	11.00	16.50	36.42	14.75
111	14.02	14.02	14.02	14.02	22.75	10.50	14.02	10.00	12.00	39.42	14.65
114	13.92	13.92	13.92	13.92	23.50	10.00	13.92	10.00	10.75	36.50	14.57
117	13.90	13.90	13.90	13.90	27.88	11.00	13.90	11.00	10.50	29.33	14.51
120	13.92	13.92	13.92	13.92	23.00	10.00	13.92	10.00	17.25	19.42	14.47
123	13.95	13.95	13.95	13.95	22.25	23.00	13.95	10.00	11.50	36.42	14.49
126	13.94	13.94	13.94	13.94	18.25	11.00	13.94	10.00	12.00	24.17	14.40
129	13.94	13.94	13.94	13.94	18.00	10.50	13.94	12.00	11.00	25.42	14.26
132	13.94	13.94	13.94	13.94	20.88	11.00	13.94	28.00	10.25	30.50	14.14
135	13.93	13.93	13.93	13.93	23.75	31.00	13.93	25.00	12.00	31.17	14.15

Table B.4A. Continued.

Time (sec)	Cell 51	Cell 52	Cell 53	Cell 54	Cell 55	Cell 56	Cell 57	Cell 58	Cell 59	Cell 60	Cell 61
138	13.90	13.90	13.90	13.90	18.13	11.00	13.90	10.00	10.50	22.83	14.12
141	13.91	13.91	13.91	13.91	22.00	10.50	13.91	10.00	10.25	25.58	14.17
144	13.85	13.85	13.85	13.85	23.00	10.50	13.85	10.00	16.50	32.83	14.20
147	13.85	13.85	13.85	13.85	37.38	10.00	13.85	12.00	11.00	25.50	14.21
150	13.83	13.83	13.83	13.83	18.63	12.00	13.83	10.00	16.25	23.17	14.17
153	13.82	13.82	13.82	13.82	13.75	17.50	13.82	10.00	10.50	34.17	14.17
156	13.80	13.80	13.80	13.80	20.00	10.00	13.80	24.00	10.75	23.58	14.15
159	13.77	13.77	13.77	13.77	22.50	11.00	13.77	11.00	11.50	33.75	14.11
162	13.81	13.81	13.81	13.81	20.13	10.50	13.81	11.00	11.50	27.33	14.10
165	13.81	13.81	13.81	13.81	12.13	10.00	13.81	11.00	11.25	22.42	14.10
168	13.81	13.81	13.81	13.81	22.88	10.50	13.81	16.00	11.50	25.00	14.06
171	13.84	13.84	13.84	13.84	21.25	10.00	13.84	11.00	11.00	27.42	13.94
174	13.79	13.79	13.79	13.79	33.38	11.00	13.79	14.00	11.50	29.75	13.87
177	13.78	13.78	13.78	13.78	33.75	11.50	13.78	17.00	13.00	23.08	13.90
180	13.77	13.77	13.77	13.77	26.50	11.00	13.77	10.00	11.00	24.50	13.91
183	13.75	13.75	13.75	13.75	17.50	16.00	13.75	10.00	11.50	22.08	13.92
186	13.76	13.76	13.76	13.76	27.88	10.00	13.76	10.00	11.25	24.83	13.91
189	13.75	13.75	13.75	13.75	17.88	10.00	13.75	11.00	14.75	31.83	13.94
192	13.74	13.74	13.74	13.74	31.75	27.50	13.74	11.00	11.25	36.58	13.94
195	13.75	13.75	13.75	13.75	15.63	10.00	13.75	40.00	11.00	26.08	13.86
198	13.72	13.72	13.72	13.72	17.25	16.50	13.72	10.00	11.75	35.00	13.83
201	13.70	13.70	13.70	13.70	21.50	17.50	13.70	11.00	11.50	31.42	13.82
204	13.68	13.68	13.68	13.68	21.25	10.00	13.68	10.00	14.50	33.75	13.87
207	13.67	13.67	13.67	13.67	36.38	12.00	13.67	11.00	11.25	28.33	13.86
210	13.69	13.69	13.69	13.69	23.00	10.00	13.69	11.00	13.25	32.17	13.83
213	13.67	13.67	13.67	13.67	28.75	10.50	13.67	10.00	11.75	28.08	13.82
216	13.68	13.68	13.68	13.68	12.00	12.50	13.68	10.00	11.50	30.83	13.81
219	13.67	13.67	13.67	13.67	23.75	9.00	13.67	11.00	11.25	25.17	13.78
222	13.68	13.68	13.68	13.68	14.88	14.50	13.68	11.00	10.00	28.25	13.74
225	13.68	13.68	13.68	13.68	13.88	10.00	13.68	11.00	11.50	29.50	13.76
228	13.66	13.66	13.66	13.66	21.63	28.00	13.66	10.00	10.50	25.25	13.71
231	13.65	13.65	13.65	13.65	28.13	33.00	13.65	11.00	11.50	29.33	13.74
234	13.61	13.61	13.61	13.61	20.75	11.50	13.61	10.00	11.50	34.00	13.71
237	13.64	13.64	13.64	13.64	18.38	10.50	13.64	10.00	10.75	29.08	13.57
240	13.64	13.64	13.64	13.64	17.63	10.00	13.64	11.00	11.50	39.92	13.62
243	13.64	13.64	13.64	13.64	26.13	10.50	13.64	11.00	11.25	28.50	13.65
246	13.64	13.64	13.64	13.64	23.75	10.50	13.64	10.00	12.00	26.08	13.71
249	13.61	13.61	13.61	13.61	26.50	10.50	13.61	42.00	10.75	32.17	13.65
252	13.61	13.61	13.61	13.61	16.50	10.50	13.61	56.00	11.50	30.25	13.63
255	13.58	13.58	13.58	13.58	10.00	10.50	13.58	11.00	11.75	26.25	13.63
258	13.59	13.59	13.59	13.59	27.75	11.00	13.59	8.00	11.25	26.25	13.61
261	13.59	13.59	13.59	13.59	28.13	11.50	13.59	43.00	11.50	39.50	13.65
264	13.59	13.59	13.59	13.59	21.88	10.50	13.59	10.00	11.75	23.58	13.58
267	13.60	13.60	13.60	13.60	19.38	10.00	13.60	10.00	11.25	35.58	13.53
270	13.57	13.57	13.57	13.57	13.38	11.50	13.57	11.00	11.75	38.25	13.59
273	13.57	13.57	13.57	13.57	16.63	11.50	13.57	12.00	11.50	27.33	13.64

Table B.4A. Continued.

Time (sec)	Cell 51	Cell 52	Cell 53	Cell 54	Cell 55	Cell 56	Cell 57	Cell 58	Cell 59	Cell 60	Cell 61
276	13.57	13.57	13.57	13.57	23.38	11.00	13.57	11.00	11.25	24.08	13.62
279	13.56	13.56	13.56	13.56	23.88	19.50	13.56	8.00	11.75	28.67	13.59
282	13.57	13.57	13.57	13.57	15.63	10.50	13.57	11.00	11.50	31.00	13.58
285	13.55	13.55	13.55	13.55	15.75	11.50	13.55	11.00	10.75	31.42	13.57
288	13.53	13.53	13.53	13.53	11.00	17.50	13.53	10.00	11.25	26.08	13.58
291	13.54	13.54	13.54	13.54	26.50	15.00	13.54	10.00	11.00	38.83	13.56
294	13.55	13.55	13.55	13.55	26.63	10.00	13.55	11.00	11.75	28.42	13.52
297	13.56	13.56	13.56	13.56	12.13	10.00	13.56	15.00	11.00	35.58	13.50
300	13.56	13.56	13.56	13.56	19.50	9.00	13.56	14.00	11.25	27.67	13.47
303	13.57	13.57	13.57	13.57	23.50	10.50	13.57	27.00	20.00		
306	13.58	13.58	13.58	13.58	19.75	11.00	13.58	10.00	13.50		
309	13.59	13.59	13.59	13.59	30.25	11.00	13.59	11.00	10.50		
312	13.56	13.56	13.56	13.56	15.00	16.50	13.56	11.00	11.25		
315	13.57	13.57	13.57	13.57	20.88	11.00	13.57	11.00	11.50		
318	13.58	13.58	13.58	13.58	20.00	10.50	13.58	11.00	11.50		
321	13.56	13.56	13.56	13.56	24.13	10.50	13.56	12.00	10.75		
324	13.57	13.57	13.57	13.57	15.75	10.00	13.57	11.00	11.50		

Table B.4A. Continued.

Time (sec)	Cell 62	Cell 63	Cell 64	Cell 65	Cell 66	Cell 67	Cell 68	Cell 69	Cell 70	Cell 71	Cell 72
0	26.00	25.25	25.00	20.00	19.21	10.00	14.12	15.58	15.58	15.58	28.05
3	35.00	24.13	30.25	17.67	18.71	14.00	14.12	15.47	15.47	15.47	27.79
6	36.50	24.25	21.75	31.00	18.50	32.00	14.09	15.47	15.47	15.47	29.58
9	21.50	30.50	23.38	33.33	19.71	27.00	14.08	15.45	15.45	15.45	32.74
12	27.50	22.00	18.25	33.33	17.92	27.00	14.04	15.37	15.37	15.37	30.53
15	36.50	25.38	23.38	34.67	14.08	28.00	14.02	15.38	15.38	15.38	17.16
18	38.00	24.38	20.88	33.33	21.38	30.00	14.04	15.41	15.41	15.41	34.47
21	28.50	25.50	17.63	22.00	15.96	16.00	14.01	15.42	15.42	15.42	28.16
24	29.00	20.38	18.50	12.00	16.29	10.00	13.99	15.42	15.42	15.42	28.37
27	17.50	23.75	30.00	13.67	18.25	14.00	13.97	15.36	15.36	15.36	24.11
30	23.00	20.38	25.50	22.67	15.92	13.00	13.95	15.35	15.35	15.35	24.95
33	20.00	23.63	26.63	33.67	15.75	13.00	13.94	15.31	15.31	15.31	34.32
36	34.50	18.50	22.50	30.33	18.33	10.00	13.93	15.27	15.27	15.27	32.00
39	20.00	25.38	21.75	24.33	18.83	13.00	13.93	15.25	15.25	15.25	30.74
42	35.50	22.75	26.88	12.00	19.29	28.00	13.94	15.21	15.21	15.21	28.42
45	19.00	25.88	26.88	31.67	18.58	10.00	13.91	15.23	15.23	15.23	26.89
48	9.50	30.38	19.00	14.33	13.88	39.00	13.87	15.26	15.26	15.26	33.11
51	29.00	23.50	25.88	30.33	19.21	16.00	13.90	15.18	15.18	15.18	26.26
54	24.00	24.50	25.13	24.67	16.67	11.00	13.86	15.13	15.13	15.13	29.21
57	22.50	21.50	27.13	31.33	16.00	43.00	13.86	15.12	15.12	15.12	33.89
60	39.00	20.63	26.13	19.33	13.00	43.00	13.84	15.11	15.11	15.11	29.05
63	35.50	23.13	26.38	22.67	19.13	11.00	13.85	15.13	15.13	15.13	38.74
66	32.00	22.88	19.88	16.33	17.17	11.00	13.84	15.09	15.09	15.09	22.68
69	21.00	26.38	15.63	40.33	20.58	10.00	13.84	15.13	15.13	15.13	29.63
72	20.00	29.63	31.13	18.33	17.29	11.00	13.79	15.09	15.09	15.09	29.53
75	18.00	28.25	17.75	24.67	18.08	30.00	13.80	15.06	15.06	15.06	31.21
78	18.00	21.13	27.63	31.00	17.08	11.00	13.78	15.06	15.06	15.06	33.53
81	31.50	23.88	20.63	32.00	19.17	16.00	13.77	15.01	15.01	15.01	25.63
84	13.00	22.50	18.75	24.67	18.33	12.00	13.75	14.99	14.99	14.99	26.47
87	18.00	23.00	14.38	21.67	15.96	10.00	13.76	15.00	15.00	15.00	26.53
90	20.00	23.88	26.50	41.67	15.88	11.00	13.72	15.03	15.03	15.03	28.16
93	21.50	22.38	40.63	16.33	22.38	25.00	13.69	15.02	15.02	15.02	29.47
96	10.00	40.63	24.88	37.67	18.25	16.00	13.96	15.01	15.01	15.01	32.84
99	20.00	20.50	23.25	19.00	22.29	11.00	14.55	14.99	14.99	14.99	27.05
102	18.50	23.88	24.63	14.00	20.83	28.00	14.72	15.05	15.05	15.05	27.21
105	20.50	22.63	25.38	18.67	26.00	24.00	14.80	15.43	15.43	15.43	34.58
108	25.00	26.13	17.13	13.00	21.50	18.00	14.75	16.09	16.09	16.09	41.05
111	20.50	17.88	14.00	11.67	25.17	21.00	14.65	16.43	16.43	16.43	38.58
114	38.00	19.38	13.00	10.00	22.08	55.00	14.57	16.55	16.55	16.55	42.26
117	28.00	30.25	10.75	16.33	26.17	121.00	14.51	16.58	16.58	16.58	37.00
120	18.00	26.38	15.00	11.67	27.88	35.00	14.47	16.62	16.62	16.62	40.11
123	23.50	22.38	9.63	9.33	25.08	24.00	14.49	16.57	16.57	16.57	37.68
126	21.00	43.38	12.75	17.67	21.83	41.00	14.40	16.58	16.58	16.58	47.42
129	26.50	27.88	12.13	13.00	21.58	16.00	14.26	16.58	16.58	16.58	39.00
132	41.50	23.75	10.38	10.00	21.83	40.00	14.14	16.49	16.49	16.49	45.74
135	27.00	27.25	14.88	9.67	25.79	22.00	14.15	16.42	16.42	16.42	55.47

Table B.4A. Continued.

Time (sec)	Cell 62	Cell 63	Cell 64	Cell 65	Cell 66	Cell 67	Cell 68	Cell 69	Cell 70	Cell 71	Cell 72
138	31.00	33.63	15.25	10.00	19.42	26.00	14.12	16.42	16.42	16.42	38.63
141	51.00	22.63	10.50	9.67	24.71	17.00	14.17	16.32	16.32	16.32	48.47
144	42.50	22.63	11.88	9.67	20.42	63.00	14.20	16.28	16.28	16.28	49.84
147	29.00	24.25	18.00	13.67	24.25	14.00	14.21	16.21	16.21	16.21	42.37
150	29.00	20.13	11.50	10.67	22.58	44.00	14.17	16.13	16.13	16.13	57.68
153	27.00	30.88	18.25	11.00	21.46	20.00	14.17	16.04	16.04	16.04	57.37
156	16.00	25.00	12.13	10.67	17.38	46.00	14.15	15.99	15.99	15.99	50.37
159	38.50	26.88	14.38	17.00	23.79	16.00	14.11	15.90	15.90	15.90	47.42
162	21.50	21.50	13.38	10.33	18.92	69.00	14.10	15.86	15.86	15.86	49.42
165	49.50	19.63	14.50	9.00	20.83	14.00	14.10	15.73	15.73	15.73	53.16
168	26.00	24.63	11.88	16.33	18.50	36.00	14.06	15.72	15.72	15.72	48.58
171	19.00	27.75	10.00	10.33	21.38	27.00	13.94	15.77	15.77	15.77	54.11
174	29.50	26.88	9.75	12.33	16.92	28.00	13.87	15.75	15.75	15.75	50.21
177	32.50	26.75	10.75	23.00	19.75	42.00	13.90	15.73	15.73	15.73	42.58
180	31.00	22.50	14.50	11.67	17.67	32.00	13.91	15.56	15.56	15.56	47.53
183	30.50	31.38	17.50	10.33	22.33	10.00	13.92	15.40	15.40	15.40	51.53
186	43.00	14.38	12.00	10.67	15.46	19.00	13.91	15.43	15.43	15.43	54.74
189	16.00	30.75	17.00	11.67	18.67	24.00	13.94	15.47	15.47	15.47	59.32
192	17.00	31.25	13.88	13.00	19.17	11.00	13.94	15.43	15.43	15.43	57.11
195	33.50	30.25	16.00	10.67	26.63	37.00	13.86	15.46	15.46	15.46	58.53
198	47.50	31.38	18.13	15.67	22.46	24.00	13.83	15.42	15.42	15.42	46.74
201	10.50	32.75	13.13	9.67	16.92	67.00	13.82	15.34	15.34	15.34	50.68
204	17.00	27.00	13.38	11.67	19.50	37.00	13.87	15.38	15.38	15.38	45.37
207	17.50	27.88	10.63	21.00	15.71	43.00	13.86	15.37	15.37	15.37	41.32
210	19.50	31.13	15.50	18.33	18.50	30.00	13.83	15.30	15.30	15.30	46.47
213	13.00	29.75	12.75	13.33	24.33	44.00	13.82	15.27	15.27	15.27	51.42
216	29.00	21.75	10.75	17.00	23.79	107.00	13.81	15.24	15.24	15.24	47.37
219	36.00	27.25	13.75	9.67	16.67	12.00	13.78	15.21	15.21	15.21	46.32
222	39.00	24.13	15.63	16.67	17.13	48.00	13.74	15.22	15.22	15.22	42.26
225	32.50	30.88	14.13	11.33	16.38	18.00	13.76	15.21	15.21	15.21	44.21
228	21.00	25.00	14.75	13.67	20.54	50.00	13.71	15.13	15.13	15.13	55.89
231	29.00	28.50	10.75	13.00	20.33	32.00	13.74	15.06	15.06	15.06	60.68
234	15.00	18.38	10.00	15.00	16.75	15.00	13.71	15.10	15.10	15.10	41.63
237	21.50	22.00	12.88	10.33	18.13	33.00	13.57	15.13	15.13	15.13	44.89
240	16.50	27.25	10.75	11.67	14.88	70.00	13.62	15.09	15.09	15.09	36.79
243	11.50	34.88	12.63	11.67	20.71	42.00	13.65	15.06	15.06	15.06	49.21
246	17.00	16.63	18.38	12.67	16.42	49.00	13.71	14.98	14.98	14.98	45.89
249	20.50	29.00	14.13	11.00	16.83	44.00	13.65	14.98	14.98	14.98	40.74
252	22.00	23.38	18.88	22.67	19.42	12.00	13.63	14.99	14.99	14.99	38.84
255	26.00	22.00	13.25	21.00	17.63	56.00	13.63	14.92	14.92	14.92	51.79
258	29.00	20.88	15.13	9.33	19.54	59.00	13.61	14.87	14.87	14.87	41.53
261	13.50	30.38	17.00	20.67	21.63	55.00	13.65	14.81	14.81	14.81	52.74
264	33.00	17.88	13.75	10.67	16.71	41.00	13.58	14.83	14.83	14.83	43.47
267	11.50	12.88	13.13	11.33	15.71	36.00	13.53	14.83	14.83	14.83	38.89
270	25.00	19.00	13.38	18.67	16.88	36.00	13.59	14.79	14.79	14.79	44.42
273	27.50	27.00	14.25	10.33	27.00	16.00	13.64	14.81	14.81	14.81	41.21

Table B.4A. Continued.

Time (sec)	Cell 62	Cell 63	Cell 64	Cell 65	Cell 66	Cell 67	Cell 68	Cell 69	Cell 70	Cell 71	Cell 72
276	40.00	29.13	14.38	10.33	17.38	36.00	13.62	14.81	14.81	14.81	44.26
279	9.00	21.88	17.13	10.33	15.54	31.00	13.59	14.84	14.84	14.84	43.63
282	17.00	20.13	15.13	14.33	18.21	22.00	13.58	14.81	14.81	14.81	45.26
285	19.50	32.25	13.75	13.00	18.25	52.00	13.57	14.80	14.80	14.80	41.84
288	28.00	24.63	11.13	11.00	20.71	16.00	13.58	14.79	14.79	14.79	33.84
291	28.50	27.75	12.63	16.33	16.58	14.00	13.56	14.77	14.77	14.77	38.11
294	11.00	28.13	15.25	9.67	20.54	20.00	13.52	14.68	14.68	14.68	49.74
297	30.00	22.00	16.75	13.00	19.00	19.00	13.50				
300	18.00	23.00	20.50	12.67	21.75	14.00	13.47				

Table B.4A. Continued.

Time (sec)	Cell 73	Cell 74	Cell 75	Cell 76	Cell 77	Cell 78
0	35.27	15.58	27.50	30.75	71.00	36.50
3	39.45	15.47	49.00	18.00	72.00	31.83
6	38.09	15.47	31.00	42.50	55.00	40.17
9	25.64	15.45	29.00	41.50	64.00	37.33
12	40.45	15.37	25.00	32.00	43.00	28.67
15	31.73	15.38	29.00	29.75	65.00	33.83
18	36.36	15.41	22.50	34.00	95.00	27.50
21	37.27	15.42	36.50	28.75	14.00	32.67
24	32.09	15.42	28.00	29.50	45.00	43.17
27	32.45	15.36	19.00	15.50	17.00	22.00
30	32.82	15.35	24.00	19.25	28.00	48.67
33	31.27	15.31	26.50	29.00	30.00	39.50
36	32.36	15.27	18.00	26.25	35.00	27.83
39	29.45	15.25	54.50	19.25	23.00	37.83
42	38.00	15.21	26.50	32.00	18.00	27.33
45	28.00	15.23	20.50	26.25	27.00	43.00
48	31.18	15.26	29.00	25.50	39.00	20.17
51	30.64	15.18	32.50	20.75	44.00	29.50
54	39.09	15.13	30.00	38.25	28.00	24.17
57	28.18	15.12	29.50	33.25	25.00	34.00
60	32.91	15.11	25.00	28.00	20.00	23.67
63	35.09	15.13	23.00	37.25	19.00	23.83
66	22.27	15.09	50.50	41.25	33.00	28.17
69	30.00	15.13	20.50	22.00	57.00	28.33
72	37.18	15.09	18.50	23.50	45.00	19.67
75	34.82	15.06	24.00	16.75	34.00	21.50
78	38.73	15.06	39.00	34.75	41.00	42.50
81	27.00	15.01	27.00	19.00	34.00	36.50
84	35.82	14.99	73.00	25.00	30.00	27.33
87	30.82	15.00	21.50	25.25	10.00	42.00
90	29.91	15.03	28.50	31.25	28.00	27.00
93	30.64	15.02	15.50	24.75	26.00	35.00
96	29.45	15.01	28.00	19.25	49.00	49.67
99	23.91	14.99	35.50	18.50	49.00	31.67
102	39.55	15.05	29.00	22.25	21.00	24.17
105	35.91	15.43	32.00	26.25	13.00	26.17
108	33.91	16.09	64.50	32.50	46.00	45.17
111	50.27	16.43	35.50	35.00	63.00	59.17
114	55.55	16.55	33.50	33.00	32.00	56.00
117	39.27	16.58	22.00	58.75	48.00	51.83
120	53.64	16.62	40.00	35.50	73.00	48.33
123	42.09	16.57	40.00	58.25	45.00	52.17
126	43.55	16.58	60.00	30.50	30.00	28.83
129	52.91	16.58	34.50	75.50	84.00	23.83
132	48.73	16.49	46.50	51.75	51.00	35.67
135	59.27	16.42	42.00	39.25	38.00	26.33

Table B.4A. Continued.

Time (sec)	Cell 73	Cell 74	Cell 75	Cell 76	Cell 77	Cell 78
138	57.73	16.42	22.00	35.75	67.00	33.83
141	41.73	16.32	62.00	45.25	31.00	25.17
144	43.91	16.28	27.00	41.75	18.00	28.17
147	55.00	16.21	32.50	29.50	35.00	29.67
150	50.73	16.13	23.00	39.75	40.00	14.00
153	56.73	16.04	33.00	51.50	31.00	18.83
156	58.09	15.99	72.00	34.75	28.00	27.17
159	54.18	15.90	77.00	44.00	55.00	19.83
162	51.09	15.86	23.50	61.25	21.00	19.50
165	48.73	15.73	28.50	52.50	36.00	16.83
168	34.45	15.72	32.50	43.75	11.00	18.17
171	63.82	15.77	23.50	53.25	19.00	17.17
174	53.27	15.75	34.00	33.50	72.00	15.17
177	50.91	15.73	17.50	40.50	15.00	16.00
180	59.91	15.56	42.00	30.25	19.00	16.00
183	51.91	15.40	37.00	48.00	18.00	12.00
186	39.64	15.43	69.00	25.00	34.00	25.67
189	40.27	15.47	22.00	55.50	22.00	18.67
192	51.18	15.43	31.50	37.75	10.00	18.67
195	36.55	15.46	66.50	32.75	21.00	21.00
198	34.55	15.42	47.50	50.75	24.00	18.00
201	40.09	15.34	38.00	39.75	27.00	16.00
204	58.27	15.38	51.00	47.50	28.00	21.00
207	54.55	15.37	41.50	33.00	13.00	29.00
210	36.64	15.30	61.50	64.25	47.00	27.83
213	59.27	15.27	45.50	46.00	12.00	32.33
216	47.18	15.24	26.00	37.75	15.00	19.50
219	54.55	15.21	28.50	41.25	21.00	16.00
222	36.18	15.22	18.00	32.25	30.00	16.00
225	46.82	15.21	53.50	39.00	49.00	14.83
228	37.18	15.13	28.50	36.00	21.00	14.17
231	43.45	15.06	64.50	73.50	26.00	28.17
234	37.00	15.10	19.00	44.75	11.00	15.33
237	50.73	15.13	59.00	55.75	35.00	18.00
240	47.64	15.09	36.50	34.50	35.00	28.00
243	43.09	15.06	31.00	47.00	9.00	25.67
246	47.18	14.98	89.50	31.50	18.00	20.17
249	30.73	14.98	35.00	31.25	69.00	19.00
252	38.82	14.99	31.50	37.75	10.00	15.67
255	42.55	14.92	37.00	28.25	46.00	13.00
258	43.64	14.87	27.50	31.50	29.00	17.33
261	43.55	14.81	31.50	45.50	62.00	13.33
264	31.73	14.83	24.00	38.50	17.00	28.17
267	49.55	14.83	54.50	48.25	57.00	17.50
270	32.36	14.79	31.00	41.50	30.00	19.17
273	27.09	14.81	70.00	30.00	17.00	28.67

Table B.4A. Continued.

Time (sec)	Cell 73	Cell 74	Cell 75	Cell 76	Cell 77	Cell 78
276	32.09	14.81	19.50	38.75	37.00	24.17
279	33.55	14.84	52.00	53.75	36.00	31.00
282	28.91	14.81	14.50	25.25	20.00	28.00
285	38.27	14.80	76.00	28.50	44.00	15.33
288	43.09	14.79	35.50	50.00	12.00	11.83
291	47.64	14.77	61.00	25.50	10.00	13.50

Table B.4B. Calcium Dynamics data for differentiating Day 8 SH-SY5Y cells cultured in 2-D monolayer. Data was used to generate Table 1.

Time (sec)	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5	Cell 6	Cell 7	Cell 8	Cell 9	Cell 10	Cell 11
0	43.50	28.13	38.25	30.50	25.50	42.76	44.47	29.44	36.70	36.06	25.87
5	34.00	37.25	33.75	29.50	26.25	38.36	37.16	30.56	35.10	39.17	26.77
10	48.00	32.50	35.75	28.42	24.13	36.79	41.05	26.94	34.80	31.89	29.63
15	33.25	30.00	49.50	28.83	22.63	37.31	36.05	31.00	34.90	40.33	35.10
20	57.25	57.13	61.50	40.83	31.75	55.29	51.79	30.25	58.00	54.72	50.40
25	33.25	46.88	23.75	50.25	30.00	55.26	41.84	22.00	54.50	51.17	43.37
30	32.75	45.13	17.75	39.33	35.13	45.95	35.16	19.63	51.60	60.50	43.43
35	21.75	47.00	20.00	41.92	30.25	41.62	36.05	19.94	38.80	51.44	40.40
40	26.00	38.63	23.50	38.33	24.25	41.79	37.32	14.69	53.80	45.39	36.60
45	22.00	32.88	26.25	38.33	24.75	39.83	33.05	17.31	58.10	50.94	41.87
50	14.75	44.38	19.75	49.67	23.50	41.64	35.05	17.13	53.30	42.72	37.23
55	24.75	44.25	21.50	44.17	22.38	39.02	32.58	19.94	46.60	49.83	44.53
60	22.25	44.00	17.00	35.83	26.25	39.88	34.53	22.25	42.40	47.50	40.27
65	21.25	40.13	29.25	41.08	19.63	41.36	37.89	20.88	48.10	44.39	38.00
70	23.50	38.25	19.50	39.75	35.13	43.69	40.26	16.94	45.20	55.72	43.03
75	34.50	37.00	14.25	41.58	28.13	42.52	32.11	17.06	42.40	50.72	36.00
80	36.75	34.38	18.00	42.58	16.88	40.81	39.58	19.06	52.80	46.61	37.47
85	29.75	35.63	32.25	41.17	29.50	42.93	36.53	15.56	46.10	46.33	41.87
90	41.50	37.13	18.75	42.42	26.25	39.52	40.68	22.69	44.80	46.17	36.60
95	34.00	40.63	16.75	36.67	25.38	40.88	37.00	20.44	40.10	44.72	39.27
100	44.75	50.25	17.50	43.33	24.00	36.17	34.53	15.75	49.40	45.61	39.40
105	42.25	40.38	11.50	44.25	23.50	43.67	47.79	19.06	38.10	52.22	44.07
110	28.00	33.25	20.75	45.25	21.50	37.88	36.37	21.31	40.80	48.72	39.97

Table B.4B. Continued.

Time (sec)	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21	Cell 22
0	11.45	16.11	12.08	18.15	11.48	15.87	14.68	18.16	13.07	11.63	12.37
3	11.79	16.46	11.35	16.69	11.73	18.11	13.65	16.03	13.15	11.61	13.48
6	14.17	14.32	11.13	18.88	13.14	19.78	15.36	15.24	12.75	12.62	13.05
9	9.60	17.34	10.62	18.87	12.29	17.78	14.18	15.93	13.28	12.64	12.14
12	10.17	16.28	9.87	17.73	11.90	19.41	13.94	19.45	10.88	12.77	12.56
15	11.88	15.66	10.79	19.00	11.73	19.69	15.24	14.76	11.12	12.68	13.17
18	11.74	19.57	10.19	17.69	11.55	17.85	14.58	18.79	12.33	12.85	11.65
21	10.85	16.28	9.99	17.66	11.95	18.52	14.86	16.66	12.65	11.91	11.87
24	10.66	17.31	11.30	17.42	11.37	17.59	14.68	19.79	11.32	12.76	12.88
27	11.85	16.49	10.77	18.48	10.75	20.30	14.83	20.26	9.85	12.17	12.93
30	11.10	16.51	11.74	18.11	11.19	19.01	15.59	16.62	10.82	12.59	13.05
33	12.16	18.30	10.53	17.78	11.48	18.57	14.61	16.38	12.87	12.01	13.02
36	10.05	17.28	10.36	18.08	11.81	18.84	15.03	17.59	13.10	12.57	11.50
39	10.24	17.28	12.03	16.52	11.24	18.87	14.63	17.28	12.07	12.44	12.32
42	11.66	14.24	11.58	17.14	12.47	20.59	15.11	18.22	13.25	12.20	13.51
45	9.98	16.92	11.08	18.16	11.30	19.43	14.57	17.03	10.35	11.46	13.71
48	11.36	17.04	11.38	16.55	11.23	17.38	14.72	20.17	10.40	12.35	13.40
51	11.49	16.99	10.35	17.81	10.38	19.31	14.82	16.45	11.08	12.87	12.35
54	12.79	17.43	10.53	16.93	12.29	18.30	14.79	16.88	10.53	12.04	12.56
57	11.49	15.84	10.62	16.21	11.08	19.06	14.25	16.72	11.90	13.16	11.94
60	11.01	16.30	9.73	14.77	12.83	17.84	14.55	16.43	12.47	11.65	13.28
63	10.21	13.47	12.38	16.38	12.44	20.08	14.36	17.98	12.97	12.04	12.90
66	10.34	14.46	11.27	19.39	9.55	20.27	15.31	15.95	12.13	12.19	13.15
69	11.35	13.84	10.68	17.68	11.09	19.11	14.20	15.71	11.62	12.76	12.69
72	9.60	17.86	10.30	17.17	12.53	18.31	14.70	16.59	12.05	12.72	12.15
75	11.67	18.12	9.78	16.38	10.71	16.88	15.97	15.62	9.75	12.02	11.79
78	10.37	16.00	12.29	15.69	12.93	19.85	14.55	15.67	10.78	11.23	13.39
81	10.03	15.65	11.26	16.95	12.13	17.50	14.69	17.24	10.93	13.21	12.11
84	9.86	16.92	12.99	16.01	10.29	17.45	16.08	18.72	10.65	13.33	12.42
87	11.67	16.31	11.38	17.56	12.10	17.15	14.29	16.88	8.75	12.25	12.44
90	11.88	16.62	10.84	17.83	10.68	18.97	15.64	15.43	10.67	12.38	13.01
93	10.45	17.65	9.58	17.53	11.36	20.02	14.49	14.66	9.48	13.18	11.24
96	4.83	5.31	5.08	5.13	5.11	5.66	5.71	6.00	5.95	11.98	12.05
99	5.23	5.04	5.12	4.91	5.50	5.36	5.41	5.59	5.83	18.01	16.72
102	5.16	4.96	5.01	5.16	5.19	5.36	5.42	5.64	5.30	22.80	15.36
105	5.03	4.95	5.13	5.08	5.30	5.25	5.58	5.24	5.57	26.34	15.14
108	5.01	5.07	5.06	4.99	5.22	5.14	5.52	5.84	5.98	26.07	17.15
111	5.08	4.86	5.06	5.03	5.18	5.45	5.57	5.33	5.57	25.33	17.04
114	5.28	5.20	5.40	4.89	5.22	5.28	5.48	5.36	5.73	26.80	17.01
117	5.07	5.05	5.56	4.84	4.98	5.52	5.64	5.95	5.48	28.40	15.54
120	5.19	5.51	5.66	5.38	5.47	5.41	5.58	5.53	6.08	29.62	16.88
123	4.94	5.01	5.39	4.87	4.93	5.56	5.76	5.41	5.87	26.46	14.41
126	5.30	5.47	4.91	4.68	5.36	5.34	5.30	5.57	5.40	27.11	16.68
129	5.07	5.53	5.32	5.01	5.54	5.59	5.61	5.40	5.48	25.26	15.61
132	4.92	5.03	5.17	5.13	5.43	5.46	5.36	5.31	6.15	28.06	16.06
135	4.92	5.03	5.17	5.13	5.43	5.46	5.36	5.31	6.15	28.06	16.06

Table B.4B. Continued.

Time (sec)	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21	Cell 22
138	5.02	4.97	5.03	5.41	5.61	5.50	5.39	5.98	6.55	24.95	15.07
141	4.83	4.80	5.19	4.80	5.46	5.43	5.66	5.88	5.70	25.12	14.68
144	5.01	5.32	5.16	5.03	4.96	5.50	5.39	5.81	5.58	23.91	14.99
147	4.79	5.62	4.96	4.70	5.37	5.43	5.52	5.55	5.52	23.65	13.85
150	4.92	5.51	5.31	5.06	5.31	5.50	5.43	5.76	5.78	22.01	15.37
153	5.05	5.04	5.17	4.96	5.16	5.45	5.51	5.74	5.65	22.12	15.25
156	5.16	5.16	5.21	4.98	5.38	5.69	5.39	5.57	5.82	21.60	15.98
159	4.93	5.20	5.14	4.84	4.98	5.65	5.44	5.60	5.63	20.99	14.85
162	4.98	5.23	5.14	5.27	5.48	5.35	5.58	5.76	6.17	22.88	13.75
165	5.45	5.01	5.44	5.26	5.14	5.61	5.41	5.71	5.58	22.58	15.33
168	5.02	5.19	5.13	5.35	5.44	5.77	5.20	6.03	5.65	20.63	14.36
171	5.00	4.92	4.88	4.80	5.02	5.27	5.60	5.52	5.72	20.88	14.45
174	5.24	4.96	4.82	5.20	5.64	5.52	5.31	5.62	6.03	20.62	15.89
177	4.86	5.09	5.29	5.00	5.62	5.29	5.34	5.83	5.48	20.52	15.38
180	5.05	5.57	5.31	5.07	5.12	5.28	5.70	6.00	5.75	21.12	14.39
183	4.93	5.01	5.03	4.83	5.31	5.24	5.63	5.34	5.68	18.71	14.95
186	5.01	5.66	5.13	5.16	5.49	5.27	5.54	5.98	5.48	18.77	14.57
189	5.29	5.16	5.65	5.16	5.34	5.38	5.75	5.48	5.73	18.75	15.82
192	5.64	4.76	5.26	5.16	5.62	5.15	5.61	5.55	6.35	19.53	14.93
195	4.97	5.38	4.94	5.99	5.16	5.16	5.23	6.19	5.98	19.35	14.57
198	4.87	5.28	5.39	5.62	5.22	5.46	5.50	5.83	5.37	18.38	14.59
201	4.73	4.85	5.21	5.89	5.27	5.56	5.39	5.69	5.85	17.87	15.36
204	5.07	4.88	5.25	8.47	5.37	5.15	5.57	6.00	5.57	18.45	14.07
207	4.73	4.97	5.69	12.51	5.24	5.43	5.57	5.69	6.08	18.51	15.09
210	4.93	5.59	5.05	15.99	5.13	5.41	5.31	5.14	5.92	19.25	13.91
213	5.10	4.86	5.42	16.11	5.41	5.80	5.66	5.38	5.58	17.45	15.02
216	5.01	5.41	4.96	15.48	5.32	5.58	5.49	5.52	5.47	17.01	14.66
219	4.79	5.47	5.23	17.76	5.18	5.57	5.55	5.88	5.77	17.06	13.81
222	4.90	4.95	5.32	19.79	5.60	5.67	5.73	5.31	5.73	18.57	13.76
225	5.15	5.70	5.09	24.98	5.40	5.58	5.56	5.09	5.85	17.13	14.42
228	5.10	4.89	5.70	30.15	5.05	5.58	5.48	5.12	5.20	16.98	14.73
231	4.77	5.59	4.97	36.06	5.17	5.73	5.85	5.45	5.70	16.42	14.52
234	5.06	5.36	4.77	40.75	5.10	5.45	5.41	5.05	5.37	16.47	13.23
237	5.50	5.08	4.90	39.61	5.14	5.48	5.63	5.57	5.82	16.45	15.44
240	4.71	5.46	5.29	42.36	5.17	5.22	5.45	5.38	5.83	16.31	14.03
243	5.16	5.22	5.34	47.85	4.99	5.70	5.55	5.26	5.88	16.18	14.40
246	5.00	5.19	5.04	50.78	5.39	5.87	5.27	5.17	5.38	15.99	12.70
249	4.79	5.26	5.21	54.75	5.18	5.52	5.69	6.31	5.67	15.33	13.69
252	5.03	5.20	5.14	55.47	5.15	5.24	5.22	5.59	6.05	17.03	14.54
255	5.09	5.14	5.26	58.30	5.50	5.61	5.65	5.12	5.95	15.81	14.19
258	5.15	5.01	5.08	56.87	5.60	5.76	5.40	5.83	5.53	14.77	12.86
261	5.31	4.93	5.12	56.96	5.10	5.95	5.41	5.21	5.32	15.48	13.95
264	5.10	5.16	5.18	58.81	5.43	5.76	5.47	5.76	5.70	14.01	13.68
267	5.01	5.14	5.47	56.26	5.38	5.45	5.43	5.28	5.55	15.02	13.91
270	4.78	5.01	5.47	63.64	5.06	5.67	5.25	5.47	5.88	15.36	13.44
273	5.03	5.35	5.13	58.71	5.28	5.52	5.57	5.29	5.43	16.38	14.23

Table B.4B. Continued.

Time (sec)	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21	Cell 22
276	4.94	5.39	5.18	66.23	5.55	5.55	5.12	5.24	5.82	14.40	13.65
279	5.29	5.32	5.34	62.11	5.63	5.54	5.40	5.41	6.07	13.83	12.56
282	5.21	5.26	5.36	59.70	5.25	5.27	5.25	5.81	5.70	14.90	13.32
285	5.41	5.28	5.27	54.08	5.38	5.31	5.43	5.36	5.32	14.37	14.36
288	5.15	5.08	5.12	53.99	5.46	5.51	5.31	5.53	5.82	15.67	12.82
291	5.44	5.34	5.34	44.30	5.49	5.24	5.23	5.21	5.62	14.67	13.67
294	5.08	5.16	5.94	46.90	5.45	5.49	5.25	5.74	5.72	15.14	13.13
297	5.15	5.05	5.25	44.76	5.22	5.38	5.53	5.33	5.80	15.31	13.05
300	4.95	5.39	5.00	41.70	5.31	5.46	5.18	5.45	5.50	13.83	13.09
303	5.10	5.22	5.26	40.21	5.25	5.19	5.32	5.45	5.25	14.36	12.39
306	5.10	5.28	4.97	40.49	5.24	5.30	5.46	5.16	6.18	15.08	13.98
309	5.08	5.08	4.84	37.85	5.31	5.33	5.35	5.53	5.65	14.37	12.61
312	5.22	5.11	5.08	31.90	5.67	5.46	5.49	5.50	5.92	15.30	14.18
315	5.29	5.23	5.04	31.75	5.37	5.43	5.49	5.45	5.65	15.23	12.71
318	5.06	5.24	4.92	31.06	5.14	5.15	5.38	5.38	5.50	15.29	13.04
321	5.30	5.05	5.27	27.49	5.37	5.25	5.60	5.97	6.10	15.35	13.14
324	5.40	4.77	5.77	26.41	4.94	5.38	5.59	5.66	7.03	15.70	12.55
327	4.95	5.05	5.09	26.08	5.46	5.48	5.43	5.41	5.38	14.34	13.88
330	5.24	5.35	5.36	26.11	5.23	5.12	5.33	5.38	5.37	15.15	12.52
333	5.33	5.34	5.47	25.05	5.78	5.50	5.46	5.64	5.30	14.97	12.06
336	5.08	5.00	5.06	22.09	5.41	5.43	5.46	6.28	5.63	14.95	11.56
339	5.13	5.58	5.10	21.07	5.21	5.45	5.32	5.50	5.90	14.27	11.52
342	5.08	5.09	5.32	20.97	5.38	5.53	5.61	5.26	6.10	13.64	13.12
345	5.10	4.95	5.00	23.07	5.56	5.41	5.39	6.14	5.53	14.37	12.26
348	5.02	5.08	5.32	21.38	5.35	5.20	5.31	5.31	5.52	14.73	12.57
351	5.00	5.32	5.40	21.81	5.20	5.33	5.31	5.60	5.88	13.45	11.51
354	5.38	5.35	5.27	20.00	5.23	5.57	5.55	5.38	5.90	14.77	12.48
357	4.85	5.09	4.90	21.04	5.14	5.43	5.45	5.45	5.72	14.78	12.74
360	4.80	5.03	5.70	20.53	5.30	5.33	5.50	5.34	5.82	12.84	11.82
363	5.41	5.42	5.48	18.97	5.60	5.32	5.55	5.43	5.75	14.53	12.69
366	4.86	5.46	5.00	20.98	5.41	5.53	5.47	5.59	6.00	13.15	12.62
369	4.86	4.84	5.23	19.89	5.52	5.42	5.20	5.88	6.25	14.21	12.34
372	5.02	5.32	4.81	19.97	5.57	5.51	5.62	5.36	6.10	14.81	12.56
375	5.22	5.24	4.97	17.22	5.42	5.50	5.69	5.28	6.03	14.36	12.38
378	4.85	5.14	5.06	15.65	5.28	5.39	5.40	5.55	5.80	13.34	12.52
381	5.01	5.34	5.18	16.41	5.18	5.19	5.33	5.72	5.77	13.48	11.90
384	5.06	5.07	5.47	15.39	5.44	5.36	5.29	5.76	5.37	14.52	12.48
387	5.16	5.19	5.39	16.02	5.33	5.33	5.46	5.48	6.03	13.27	12.58
390	4.94	5.24	5.48	16.93	5.20	5.49	5.39	5.79	5.67	13.48	12.42
393	5.28	5.08	5.01	17.30	5.30	5.34	5.68	5.43	5.50	13.24	12.19
396	5.09	5.58	5.04	16.70	5.21	5.41	5.74	5.57	5.63	13.88	11.39
399	4.80	4.99	5.10	16.53	5.34	5.34	5.70	5.83	5.72	13.73	12.87

Table B.4B. Continued.

Time (sec)	Cell 23	Cell 24	Cell 25	Cell 26	Cell 27	Cell 28	Cell 29	Cell 30	Cell 31	Cell 32	Cell 33
0	11.22	12.54	15.25	11.81	15.63	13.44	13.22	11.21	25.13	12.96	12.82
3	14.78	14.04	12.98	12.10	13.88	15.14	14.07	10.50	24.81	12.94	17.50
6	14.22	14.82	11.44	12.41	20.42	14.92	13.61	11.64	25.19	12.20	15.68
9	15.22	12.95	11.81	11.50	17.54	13.57	12.30	10.69	30.31	12.28	14.92
12	18.22	13.66	11.83	10.41	17.50	13.17	12.63	9.99	35.81	13.82	14.19
15	10.44	13.53	13.40	11.41	16.38	13.67	13.15	9.92	34.88	12.88	15.65
18	8.44	13.04	12.54	10.88	13.46	14.29	10.19	9.48	24.00	12.67	17.90
21	12.22	12.68	14.77	11.32	12.17	14.14	11.12	10.26	27.31	12.54	15.92
24	14.22	11.93	11.96	10.09	13.67	15.02	11.41	10.98	35.75	12.69	14.69
27	14.44	12.28	13.06	10.82	12.92	15.19	13.09	10.26	25.56	12.78	15.05
30	14.44	11.84	13.77	11.27	12.71	13.42	12.06	11.79	29.56	12.08	16.29
33	17.89	13.47	11.00	10.27	14.79	11.45	12.09	11.20	24.19	12.56	15.35
36	12.89	13.69	12.35	12.35	13.00	16.07	11.28	9.40	26.06	12.24	13.03
39	13.11	10.51	13.54	10.40	12.17	13.99	12.71	10.45	26.13	12.48	14.02
42	15.67	13.69	10.40	10.47	14.79	13.02	10.99	11.24	26.44	13.74	17.68
45	8.78	14.12	13.21	10.09	15.88	14.64	11.77	9.84	28.94	13.90	16.82
48	16.44	15.31	12.83	10.94	16.13	13.81	12.22	9.47	30.19	12.54	12.52
51	9.33	13.96	12.38	10.62	12.63	15.42	12.37	9.64	34.88	12.77	14.10
54	12.22	11.46	13.48	11.86	11.25	13.17	10.94	10.72	36.94	12.31	15.11
57	17.44	13.23	11.31	10.46	13.88	13.45	11.69	9.68	32.88	12.00	13.85
60	11.67	11.99	13.06	10.02	16.96	11.88	11.71	11.06	32.50	13.13	13.98
63	13.11	14.42	11.02	11.29	13.75	13.37	12.01	9.70	29.50	13.21	12.42
66	14.44	12.57	11.67	10.99	14.38	12.81	12.67	11.94	29.94	12.37	16.98
69	13.22	14.16	9.85	11.78	14.08	14.30	10.76	10.00	30.75	11.95	15.97
72	9.67	13.31	12.29	10.58	12.50	14.88	12.53	10.02	27.19	12.75	13.60
75	11.33	11.78	14.38	10.16	15.33	12.59	11.62	10.51	25.13	11.92	13.98
78	10.44	12.66	12.00	11.82	17.08	15.49	11.26	10.53	29.06	12.89	14.35
81	14.56	13.08	11.94	10.85	15.25	12.48	11.40	11.11	19.56	11.73	15.05
84	11.22	13.07	11.77	11.00	13.29	12.08	11.32	10.05	27.69	13.07	17.76
87	10.33	12.31	13.67	11.42	13.38	11.91	10.98	8.94	38.81	13.03	16.74
90	13.11	12.80	15.00	10.78	16.38	13.38	12.49	9.82	30.31	12.67	15.32
93	14.33	14.00	11.40	12.01	15.04	13.06	11.12	10.64	31.69	11.67	14.44
96	19.89	14.14	12.04	11.19	10.25	13.92	12.23	10.32	33.88	12.32	14.13
99	7.56	14.00	12.54	10.63	13.33	14.15	10.30	9.80	36.25	13.21	12.82
102	13.33	14.04	9.98	12.13	14.00	13.08	12.73	13.54	35.06	12.30	13.97
105	11.89	13.96	11.40	10.95	12.38	14.17	12.85	13.21	16.63	14.05	11.84
108	9.67	12.99	11.48	10.24	11.54	11.92	11.36	12.56	12.31	14.39	11.32
111	13.22	12.84	11.88	10.41	14.63	14.27	12.09	13.27	12.63	14.46	11.02
114	15.56	14.22	12.08	10.15	12.46	13.08	12.69	13.15	10.69	12.90	8.97
117	20.67	13.14	11.77	10.09	11.92	13.95	11.47	13.27	11.94	13.05	10.26
120	28.33	13.15	11.08	10.75	13.67	11.88	12.72	12.81	12.06	12.81	7.48
123	21.00	15.31	12.25	11.68	12.00	13.48	12.54	11.77	9.50	12.60	6.90
126	12.44	14.28	10.38	11.41	12.71	14.37	11.80	9.64	11.81	13.40	5.81
129	9.78	14.19	9.17	11.93	14.79	12.84	12.10	9.02	12.19	13.70	6.45
132	10.22	18.05	10.88	10.90	13.38	12.52	13.86	9.16	10.06	12.08	7.69
135	10.22	16.00	10.17	12.01	11.83	12.26	14.48	9.49	6.56	12.63	7.68

Table B.4B. Continued.

Time (sec)	Cell 23	Cell 24	Cell 25	Cell 26	Cell 27	Cell 28	Cell 29	Cell 30	Cell 31	Cell 32	Cell 33
138	15.11	15.35	10.83	11.28	13.25	14.31	12.73	8.43	10.44	12.70	7.63
141	15.33	13.96	10.60	12.03	15.75	13.71	13.60	8.86	9.50	12.98	7.06
144	11.89	14.32	11.15	10.87	13.75	14.28	11.47	7.92	6.81	12.51	8.00
147	14.89	16.27	9.96	11.32	14.13	15.16	12.14	8.18	11.19	11.80	7.34
150	14.89	14.89	11.50	11.52	10.54	14.02	12.43	9.32	10.75	12.61	7.69
153	12.33	14.07	10.50	11.53	13.75	14.73	12.81	8.26	10.69	11.81	7.73
156	15.78	13.59	11.96	11.65	12.75	12.79	13.66	8.31	7.69	12.30	8.97
159	19.56	16.61	12.46	11.59	17.21	13.12	12.72	9.15	9.88	12.60	8.39
162	16.67	14.31	11.21	11.85	14.67	13.92	13.66	9.33	11.69	12.23	8.03
165	12.56	14.61	11.58	11.43	15.00	12.63	12.14	8.48	7.25	11.82	7.74
168	13.44	14.55	10.48	11.71	11.17	13.35	13.25	9.44	9.06	11.78	8.61
171	13.89	14.84	10.46	11.33	14.42	13.85	13.57	8.69	11.63	12.43	6.61
174	11.11	13.76	9.40	10.83	12.29	13.63	12.34	10.29	9.69	11.76	8.11
177	12.33	14.66	11.40	12.03	13.13	16.23	12.84	8.07	7.75	12.08	8.40
180	12.33	14.26	10.23	10.53	14.58	13.57	12.40	8.31	9.81	12.05	7.08
183	15.33	12.77	9.71	10.47	13.17	14.19	12.40	7.63	7.81	12.00	7.32
186	12.00	14.74	9.85	12.02	13.79	14.19	11.86	8.77	8.56	11.89	7.84
189	12.22	14.00	10.19	10.25	15.08	14.28	12.11	8.09	7.94	12.36	7.95
192	19.56	15.73	10.13	10.82	13.75	12.35	13.64	8.25	10.56	12.07	8.63
195	14.11	14.54	11.02	12.09	11.88	13.17	13.03	7.64	8.56	12.05	7.34
198	14.00	15.35	10.92	10.60	11.54	11.34	12.11	8.34	9.44	12.27	8.53
201	12.67	12.85	8.90	12.19	11.08	14.92	12.51	8.57	6.06	12.62	7.11
204	19.00	12.32	10.71	11.90	15.00	15.70	11.66	8.68	9.44	12.53	8.85
207	14.67	14.45	10.48	10.98	16.88	13.05	11.47	8.06	7.00	11.97	7.98
210	16.00	12.77	9.19	11.34	16.00	13.02	12.41	9.20	7.38	12.16	8.90
213	15.89	14.84	9.58	11.59	13.63	15.43	10.53	7.44	9.13	12.08	7.79
216	10.33	14.96	9.56	10.75	13.42	14.33	11.80	8.59	6.94	12.61	6.45
219	17.33	12.35	10.31	10.36	17.17	13.90	12.30	8.07	8.88	13.35	7.76
222	18.78	12.80	10.46	10.85	13.33	14.66	11.00	9.08	7.75	12.28	8.32
225	20.11	15.11	11.63	10.81	14.50	12.97	12.93	8.30	13.31	12.22	7.55
228	18.33	14.65	10.06	10.09	13.42	14.77	12.78	9.03	8.94	12.16	7.56
231	10.78	14.26	10.58	11.52	13.33	13.40	10.64	8.78	10.06	12.73	9.00
234	12.00	13.89	9.54	11.19	13.04	15.28	12.79	9.54	7.38	12.83	6.90
237	9.78	13.08	9.52	10.90	11.54	15.14	12.08	8.39	7.94	12.18	7.95
240	14.56	12.76	10.96	10.77	16.54	15.27	13.64	8.32	7.63	12.42	8.98
243	14.22	13.72	12.44	11.64	16.38	12.93	12.55	8.68	9.56	12.19	8.40
246	15.78	15.07	9.15	12.18	15.50	12.49	13.82	8.64	11.25	12.19	7.69
249	16.78	13.03	9.38	10.08	18.54	15.91	13.81	8.54	9.69	12.97	8.35
252	14.00	13.19	10.75	10.97	14.38	13.98	14.02	8.74	8.13	12.55	8.45
255	14.11	13.66	9.44	11.54	13.58	14.27	13.64	8.78	8.75	12.79	8.00
258	14.56	14.28	9.90	10.81	11.21	12.95	13.09	7.14	7.38	12.91	7.55
261	13.67	13.50	10.33	11.18	15.83	15.24	12.55	8.74	8.63	13.92	7.85
264	13.33	13.47	9.81	10.76	16.46	15.14	11.94	8.17	9.50	11.41	7.73
267	11.11	12.61	11.04	11.70	14.63	15.73	13.12	8.39	7.81	12.88	8.61
270	13.00	13.65	9.00	12.22	15.33	15.00	11.86	7.68	11.31	12.19	7.76
273	18.11	14.31	9.75	10.28	14.83	12.92	14.01	7.53	7.81	11.75	6.63

Table B.4B. Continued.

Time (sec)	Cell 34	Cell 35	Cell 36	Cell 37	Cell 38	Cell 39	Cell 40	Cell 41	Cell 42	Cell 43	Cell 44
0	14.74	22.69	42.07	22.45	31.86	37.74	69.80	58.04	24.68	20.39	30.59
3	14.20	19.19	42.37	23.49	32.21	37.98	70.82	57.71	25.55	21.78	31.34
6	13.66	19.16	42.07	22.62	32.27	37.84	69.40	58.44	25.35	22.61	29.83
9	15.33	19.31	41.72	22.49	32.04	37.11	69.53	56.72	25.71	21.92	29.82
12	12.58	23.40	41.26	23.43	31.35	37.17	69.37	57.19	25.09	22.16	30.00
15	13.40	24.03	41.38	22.18	31.68	36.38	68.27	56.45	24.90	20.94	29.12
18	12.60	20.17	41.20	21.72	32.15	36.87	67.04	55.43	24.40	20.97	30.50
21	14.88	19.50	41.47	22.28	30.56	36.10	66.21	54.52	24.79	20.72	29.31
24	14.17	20.91	40.93	21.09	30.84	35.70	67.60	54.69	24.56	20.70	29.95
27	12.60	22.38	40.67	20.78	30.21	35.47	65.56	52.23	24.56	19.55	27.43
30	14.88	20.28	40.79	20.54	29.78	34.93	64.54	50.67	23.80	20.16	27.77
33	14.72	23.26	40.28	19.93	29.51	34.79	61.33	49.09	24.02	19.33	28.72
36	15.23	20.40	40.59	19.88	29.75	34.51	61.91	50.03	23.70	19.83	26.72
39	13.67	19.81	40.75	19.36	29.06	35.20	61.25	50.52	23.69	19.15	28.33
42	14.54	20.95	40.48	19.78	30.31	34.69	61.83	51.17	23.06	19.31	26.72
45	14.57	21.59	42.07	22.62	32.27	37.84	69.40	58.44	25.35	22.61	29.83
48	13.21	20.05	41.72	22.49	32.04	37.11	69.53	56.72	25.71	21.92	29.82
51	14.31	20.26	40.46	20.61	29.67	35.04	63.01	51.41	23.65	19.66	28.13
54	12.74	21.05	39.87	20.39	29.49	34.12	62.87	51.93	23.49	20.60	27.73
57	13.88	21.98	39.59	19.88	30.26	34.55	62.99	58.71	23.34	19.29	27.13
60	15.14	23.45	39.45	18.98	29.47	32.03	61.33	9.42	23.36	19.18	28.43
63	14.08	18.84	38.47	20.22	29.55	31.47	60.90	9.27	24.50	19.97	26.77
66	13.24	19.09	38.42	18.82	28.90	30.42	57.04	9.54	25.36	18.98	26.56
69	13.91	21.66	39.25	19.23	27.59	31.12	49.72	9.47	24.81	18.52	26.90
72	13.26	20.29	39.34	19.86	25.48	29.34	43.70	9.62	23.70	18.76	26.53
75	12.26	20.33	38.85	21.45	26.27	28.17	39.68	9.55	21.48	17.43	23.64
78	13.68	21.21	37.53	22.26	24.61	27.88	36.82	9.54	19.77	16.86	21.87
81	14.76	21.33	37.49	23.31	25.72	27.55	35.45	9.33	18.68	16.66	21.23
84	14.00	20.38	37.49	23.75	23.41	27.89	35.33	9.64	17.95	16.51	21.43
87	13.26	19.64	37.15	24.09	24.62	28.05	36.54	9.45	17.43	16.47	21.85
90	13.02	26.16	37.43	23.62	23.57	26.94	34.75	9.37	17.26	15.90	20.98
93	13.83	18.67	36.58	22.58	23.69	26.86	32.76	9.34	16.75	16.08	21.65
96	14.36	22.78	36.31	22.70	22.97	25.65	32.47	9.41	16.65	15.07	20.05
99	14.64	20.62	36.36	22.07	23.06	26.37	33.37	9.31	16.35	16.20	20.44
102	13.74	21.60	36.56	21.99	22.57	26.62	31.99	9.50	16.58	15.92	20.47
105	14.36	23.02	35.87	21.66	21.54	24.77	31.64	9.28	16.55	14.57	20.25
108	16.07	30.09	35.79	22.10	22.99	25.85	31.88	9.56	16.61	14.82	19.86
111	15.07	30.91	34.76	21.81	21.71	25.39	31.49	9.23	16.13	15.47	20.09
114	13.98	34.66	34.89	21.34	20.68	25.15	30.61	9.29	15.98	14.66	20.26
117	17.39	39.71	35.04	21.71	20.77	24.95	30.87	9.09	16.05	15.09	18.65
120	15.35	40.74	34.93	20.84	20.90	25.52	32.16	9.27	15.74	15.14	19.86
123	19.44	40.22	34.69	21.02	20.39	24.18	29.97	9.49	15.73	15.48	19.71
126	17.26	37.09	34.26	20.62	20.94	23.94	29.93	9.43	15.66	14.14	19.15
129	17.62	42.53	34.06	20.39	20.32	23.85	29.63	9.36	15.35	15.19	19.18
132	15.52	37.50	34.33	20.13	20.61	24.75	29.66	9.40	15.79	14.51	18.51
135	16.58	34.95	33.95	20.62	19.84	23.17	28.72	9.02	14.99	14.08	18.95

Table B.4B. Continued.

Time (sec)	Cell 34	Cell 35	Cell 36	Cell 37	Cell 38	Cell 39	Cell 40	Cell 41	Cell 42	Cell 43	Cell 44
138	16.28	35.31	33.25	20.23	19.99	23.82	28.50	9.65	14.96	13.92	18.85
141	16.69	37.00	33.76	20.35	19.58	23.59	28.29	9.07	15.12	14.16	17.72
144	15.65	37.33	33.37	19.98	20.10	23.04	27.53	9.27	15.02	13.72	18.00
147	16.32	37.29	32.74	20.18	19.12	22.34	28.10	9.19	15.36	13.84	18.88
150	17.41	37.47	33.16	19.71	18.89	22.82	27.35	9.43	15.20	13.81	17.74
153	14.14	34.97	33.16	19.71	18.89	22.82	27.35	9.43	15.20	13.81	17.74
156	17.03	37.62	32.61	19.11	19.69	22.92	27.51	9.33	14.80	14.34	17.19
159	15.95	41.88	32.90	19.21	18.38	22.88	28.40	9.52	15.07	13.47	18.04
162	16.56	37.76	32.90	19.21	18.38	22.88	28.40	9.52	15.07	13.47	18.04
165	16.66	33.50	32.37	19.40	18.74	23.14	27.70	9.24	14.77	13.43	18.02
168	15.39	39.93	32.41	19.33	19.41	22.18	26.22	9.43	14.73	13.38	17.23
171	16.58	37.21	31.82	19.08	19.23	22.08	26.37	9.29	14.46	13.36	17.52
174	16.27	38.71	31.51	18.69	17.60	22.01	26.09	9.42	14.85	12.68	17.20
177	15.34	32.33	32.30	18.78	18.73	21.91	26.22	9.09	14.49	13.16	17.07
180	15.20	36.88	31.79	18.62	19.32	21.64	26.37	9.01	14.23	13.29	17.25
183	18.37	38.36	31.07	18.78	18.20	20.73	24.85	9.28	14.41	13.07	16.72
186	15.95	35.38									
189	16.19	40.14									
192	17.07	33.78									
195	16.19	36.34									
198	16.77	42.97									
201	15.59	36.55									
204	14.31	39.28									
207	17.37	34.81									
210	16.92	39.50									
213	14.23	35.26									
216	15.55	42.38									
219	15.92	37.79									
222	15.86	42.17									
225	15.99	36.66									
228	16.69	38.43									
231	16.42	37.40									
234	15.21	40.72									
237	13.85	40.29									
240	14.63	35.43									
243	16.04	38.98									
246	16.79	41.02									
249	17.22	34.09									
252	15.64	36.40									
255	14.23	35.22									
258	17.58	37.43									
261	15.20	40.07									
264	14.90	38.83									
267	14.36	31.29									
270	14.86	39.36									
273	13.99	33.33									

Table B.4B. Continued.

Time (sec)	Cell 45	Cell 46	Cell 47	Cell 48	Cell 49	Cell 50	Cell 51	Cell 52	Cell 53	Cell 54	Cell 55
0	19.00	17.99	20.71	19.10	16.41	26.04	13.79	17.35	19.56	27.70	23.03
3	20.21	17.94	20.67	19.31	17.32	27.91	14.13	17.50	19.70	26.82	22.34
6	20.44	17.97	20.40	18.96	16.86	27.39	13.79	17.49	19.73	25.94	22.21
9	19.58	18.02	20.36	18.87	16.18	26.33	13.78	17.63	19.78	25.07	22.45
12	19.23	17.79	20.35	18.73	16.61	27.22	13.84	17.67	19.70	25.55	22.02
15	19.43	17.73	20.21	18.71	15.72	24.95	13.69	17.22	19.76	24.23	22.03
18	18.04	17.47	20.01	18.67	15.99	25.58	13.43	17.44	19.45	24.30	21.68
21	19.18	17.51	20.16	18.68	16.06	24.94	13.53	17.05	19.51	24.09	21.64
24	19.20	17.65	20.14	18.65	15.68	24.81	13.51	17.00	19.37	23.37	21.36
27	18.48	17.26	20.11	18.29	15.61	24.25	13.58	16.34	19.59	22.61	21.33
30	19.21	17.48	19.86	18.07	15.16	23.01	13.32	16.67	19.43	22.32	21.60
33	17.43	17.28	19.63	18.09	14.56	20.83	12.80	16.05	19.21	21.74	21.04
36	18.16	17.52	19.47	18.14	14.10	20.87	12.97	16.23	18.89	21.99	20.99
39	18.55	17.31	19.77	18.36	14.39	21.80	13.47	16.13	19.23	21.72	20.88
42	17.62	17.32	19.50	17.74	14.90	20.85	12.85	16.67	19.44	22.00	20.96
45	20.44	17.97	20.40	18.96	16.86	27.39	13.79	17.49	19.73	22.15	20.83
48	19.58	18.02	20.36	18.87	16.18	26.33	13.78	17.63	19.78	22.02	20.58
51	17.70	17.61	19.55	18.35	15.05	22.32	13.59	16.26	19.41	20.52	20.57
54	18.84	17.29	19.35	18.01	14.84	22.87	12.94	16.83	19.62	20.24	19.94
57	18.07	17.35	19.52	17.92	14.89	22.20	13.23	16.37	18.89	20.23	20.18
60	17.83	17.60	19.37	18.17	15.43	21.57	13.34	16.73	19.14	19.72	20.25
63	18.71	17.39	18.94	18.69	14.61	21.41	13.78	16.27	19.48	20.04	20.31
66	17.78	18.62	19.36	19.69	13.95	18.39	13.99	16.10	19.91	19.65	20.13
69	18.88	19.16	19.67	19.78	13.89	14.72	13.95	15.51	18.75	20.50	20.54
72	20.30	19.29	20.13	19.32	13.96	13.75	12.76	15.01	17.65	20.16	20.37
75	20.53	18.45	20.24	19.27	12.65	14.06	12.61	14.23	16.62	20.72	20.37
78	22.16	18.02	21.03	18.79	12.65	13.32	12.21	14.53	16.14	18.58	20.29
81	21.32	17.63	21.79	18.34	11.85	10.93	11.97	14.28	15.84	18.39	20.07
84	20.96	17.39	22.57	18.44	11.47	11.19	11.76	14.01	15.62	17.58	20.13
87	21.21	17.18	22.74	18.31	12.13	11.26	11.85	14.25	15.58	16.85	20.39
90	20.71	17.26	23.10	17.61	11.00	10.54	11.71	13.70	15.26	16.19	19.08
93	20.54	17.00	23.45	18.26	10.86	10.87	11.24	13.77	15.55	16.43	18.80
96	20.44	16.80	23.21	17.57	11.46	11.02	11.45	13.88	15.22	16.69	17.89
99	21.62	17.01	23.51	17.35	11.54	11.24	11.28	13.79	15.08	17.20	16.96
102	20.67	16.57	23.80	17.22	11.10	10.92	11.57	13.74	15.38	17.43	16.71
105	19.94	16.57	23.66	17.34	11.35	10.69	11.20	13.52	15.48	18.30	16.92
108	20.63	16.39	23.50	17.48	10.98	11.18	11.59	13.52	14.88	17.99	16.69
111	21.26	16.72	23.41	16.98	11.13	10.13	11.51	13.82	15.29	18.56	16.40
114	20.92	16.21	23.15	17.49	10.43	10.68	11.08	13.20	15.10	18.33	16.53
117	20.45	16.10	22.98	17.42	10.91	10.70	11.02	13.28	15.22	18.10	16.72
120	20.27	16.45	23.22	16.84	11.39	10.45	11.52	13.51	14.91	17.67	16.34
123	20.06	16.28	22.99	17.15	11.11	10.54	11.36	13.77	14.94	17.99	16.51
126	20.23	16.24	22.61	16.67	10.80	10.49	11.29	13.32	15.09	17.68	16.74
129	19.97	16.18	22.41	16.59	10.88	11.08	11.02	12.81	14.91	17.48	15.97
132	20.29	16.06	22.50	16.37	10.78	10.83	11.01	13.60	15.03	17.72	16.29
135	19.60	16.03	22.29	16.58	10.59	10.80	10.87	13.13	14.87	17.77	16.11

Table B.4B. Continued.

Time (sec)	Cell 45	Cell 46	Cell 47	Cell 48	Cell 49	Cell 50	Cell 51	Cell 52	Cell 53	Cell 54	Cell 55
138	19.41	15.95	21.98	16.40	10.46	10.43	10.95	12.59	14.88	17.22	16.25
141	20.14	16.01	22.08	16.57	11.14	10.61	10.96	12.82	14.46	17.15	15.86
144	19.08	15.77	21.83	16.43	10.55	10.03	11.20	12.63	14.83	17.01	15.81
147	20.19	15.94	21.86	16.26	10.71	10.58	11.23	12.68	14.98	17.17	15.80
150	18.94	15.81	22.03	16.07	10.89	10.19	11.30	12.58	14.91		
153	18.94	15.81	22.03	16.07	10.89	10.19	11.30	12.58	14.91		
156	18.92	15.77	21.39	15.86	10.52	10.29	11.19	12.65	14.78		
159	19.64	15.71	21.44	16.41	10.85	10.80	10.92	12.85	14.83		
162	19.64	15.71	21.44	16.41	10.85	10.80	10.92	12.85	14.83		
165	19.53	15.78	21.31	16.18	10.27	10.15	11.05	12.78	14.81		
168	19.38	15.68	21.20	16.26	11.30	10.24	10.61	13.12	14.52		
171	19.65	15.72	20.91	16.25	10.33	10.10	11.02	12.39	14.58		
174	18.55	15.60	20.69	15.64	10.34	10.11	10.90	12.43	14.57		
177	20.17	15.65	20.63	16.00	10.24	10.33	11.03	11.96	14.41		
180	19.07	15.62	20.46	15.75	10.23	10.70	11.01	12.22	14.62		
183	17.94	15.74	20.17	15.78	10.30	10.38	10.94	12.23	14.55		

Table B.4B. Continued.

Time (sec)	Cell 56	Cell 57	Cell 58	Cell 59	Cell 60	Cell 61	Cell 62	Cell 63	Cell 64	Cell 65	Cell 66
0	21.17	22.07	31.74	36.34	25.12	26.90	11.86	23.94	17.59	14.49	39.09
3	20.96	21.86	31.05	35.25	24.60	26.63	11.74	23.67	17.03	13.77	38.58
6	20.32	21.85	29.95	34.15	24.08	26.27	11.70	23.37	16.04	13.49	38.47
9	19.82	21.29	29.89	34.09	23.79	26.08	11.63	22.88	15.50	13.25	37.82
12	19.73	22.07	29.71	33.08	23.46	25.98	11.53	23.08	15.44	12.72	37.60
15	19.55	21.31	28.59	33.26	23.10	25.93	11.44	23.27	14.97	12.49	37.36
18	18.92	21.88	28.43	32.88	22.94	25.68	11.39	22.61	15.02	12.29	36.61
21	18.83	21.73	28.15	32.58	22.80	25.64	11.49	22.95	14.74	12.18	36.46
24	18.83	21.93	28.09	32.27	22.31	25.46	11.02	23.05	14.37	12.16	36.39
27	18.19	21.91	27.29	31.84	22.13	25.30	11.09	22.54	14.21	12.14	35.92
30	18.00	22.65	26.88	31.37	21.79	24.95	11.39	22.07	13.16	12.27	35.76
33	17.39	22.60	26.65	31.08	21.10	24.90	11.09	22.30	13.38	11.62	35.15
36	17.57	22.72	26.50	31.30	20.87	24.92	10.97	22.45	13.62	11.32	34.80
39	17.13	22.90	26.36	31.17	21.11	24.92	11.16	22.12	13.38	11.63	34.87
42	16.98	22.18	26.47	30.56	21.05	24.79	11.04	21.88	13.21	11.39	35.08
45	17.35	22.58	26.08	30.55	20.97	24.70	11.17	21.91	13.31	11.35	34.43
48	16.93	22.73	26.04	30.62	20.69	24.50	11.27	21.97	12.98	11.27	34.28
51	16.48	22.95	25.50	30.09	20.20	24.47	11.14	21.63	12.71	11.06	33.43
54	16.63	23.23	25.69	29.60	20.32	24.13	11.05	21.73	12.79	11.27	32.79
57	16.22	22.64	25.40	29.70	19.92	24.06	10.94	21.89	12.77	11.65	33.45
60	15.84	23.16	25.00	29.22	19.62	23.94	11.11	21.64	12.53	11.28	33.33
63	15.48	23.72	25.17	29.35	19.51	23.91	11.20	21.37	12.21	11.37	33.26
66	16.40	23.05	25.28	29.91	19.96	24.07	11.25	21.45	12.33	11.42	33.36
69	15.98	22.77	25.34	28.87	19.93	23.68	10.98	21.75	12.38	10.71	32.36
72	15.83	23.01	25.40	29.35	19.65	23.63	10.91	21.40	12.17	11.14	32.59
75	15.50	23.31	24.69	32.55	19.62	23.66	11.12	21.64	12.27	11.03	32.43
78	14.84	24.43	23.82	33.83	19.41	24.08	11.81	23.55	12.17	10.93	32.86
81	13.91	25.55	22.69	34.35	18.55	25.19	11.29	24.09	12.04	10.73	31.90
84	13.53	24.53	22.88	34.51	16.76	25.04	10.99	24.03	11.65	10.71	30.85
87	13.16	23.49	22.74	34.89	14.89	23.67	11.15	22.62	11.61	10.85	29.10
90	12.84	22.63	22.27	33.86	14.02	21.09	10.70	20.46	10.88	10.80	27.55
93	12.33	21.12	22.03	34.28	13.57	18.80	10.88	19.42	11.13	10.48	26.38
96	12.16	20.90	21.81	33.89	12.98	17.01	10.93	17.66	10.90	10.48	25.10
99	12.10	20.53	21.13	33.80	13.10	16.45	10.77	16.88	10.75	10.33	24.55
102	12.00	20.68	21.29	33.11	13.23	16.47	10.62	16.93	10.85	10.44	24.38
105	11.88	20.56	21.24	32.72	12.97	16.18	10.67	16.95	10.85	10.60	24.32
108	11.92	20.63	21.21	32.76	13.03	16.32	10.71	16.73	10.36	10.26	24.16
111	12.14	20.36	21.13	32.67	12.79	16.32	10.47	16.46	10.83	10.42	23.67
114	11.97	20.48	20.84	32.25	13.13	16.36	10.60	16.26	10.78	10.26	23.82
117	12.04	20.75	21.22	32.03	12.84	16.19	10.52	16.34	11.29	10.44	23.76
120	11.83	20.50	21.05	31.92	12.70	16.04	10.44	15.93	10.40	10.06	23.38
123	11.67	20.49	20.94	31.43	12.94	15.87	10.66	16.26	10.71	10.35	23.25
126	11.85	20.21	20.71	31.31	12.61	15.93	10.52	15.68	10.86	10.69	23.38
129	11.54	20.27	20.63	31.50	12.67	16.03	10.59	15.47	10.96	10.84	22.99
132	11.71	20.04	20.58	30.98	12.77	16.03	10.74	15.40	10.83	10.38	23.17
135	11.70	20.28	20.56	31.06	12.60	15.83	10.41	15.35	10.73	10.18	22.95

Table B.4B. Continued.

Time (sec)	Cell 56	Cell 57	Cell 58	Cell 59	Cell 60	Cell 61	Cell 62	Cell 63	Cell 64	Cell 65	Cell 66
138	11.48	20.42	20.42	30.66	12.69	15.76	10.62	15.44	10.78	10.36	22.69
141	11.68	20.32	20.56	30.55	12.64	15.85	10.63	15.60	10.71	10.23	22.56
144	11.40	20.41	20.53	30.75	12.57	15.84	10.58	15.29	10.51	10.67	22.78
147	11.38	19.63	20.44	30.83	12.44	15.81	10.33	15.09	10.77	10.45	22.75

Table B.4B. Continued.

Time (sec)	Cell 67	Cell 68	Cell 69	Cell 70	Cell 71	Cell 72	Cell 73	Cell 74	Cell 75	Cell 76	Cell 77
0	13.56	35.56	42.69	34.94	34.98	29.56	32.39	24.46	27.03	38.36	21.39
3	13.01	34.77	43.66	33.76	34.71	29.04	31.96	24.22	26.42	37.24	21.21
6	12.97	33.87	42.63	34.40	33.75	30.16	31.13	24.20	26.41	37.88	21.43
9	12.76	34.25	42.12	34.15	34.98	29.18	30.86	23.52	26.57	38.36	21.02
12	12.55	33.77	41.05	33.74	33.14	28.56	31.19	23.45	26.53	35.43	21.09
15	12.22	33.48	41.51	33.02	34.09	27.49	30.45	23.06	26.28	35.47	20.17
18	12.09	33.06	40.51	33.23	33.31	27.40	29.81	22.93	26.22	36.07	19.12
21	12.10	32.97	40.69	32.90	34.38	28.65	31.61	22.97	25.86	35.25	18.72
24	11.84	31.94	40.36	31.93	33.58	27.61	29.10	21.60	25.81	33.11	17.15
27	11.60	32.16	39.78	31.29	32.37	26.66	28.52	21.35	25.67	32.27	17.26
30	11.46	31.96	40.05	32.68	31.87	26.63	29.07	20.90	25.62	33.20	17.54
33	11.47	31.64	39.48	31.94	33.30	25.95	28.23	21.74	25.66	31.92	16.59
36	11.50	32.11	39.79	31.41	32.14	26.07	30.10	21.64	25.61	32.19	16.41
39	11.47	31.65	39.65	31.30	31.64	25.40	28.76	21.02	25.18	31.47	16.63
42	11.48	31.24	39.36	31.26	32.41	26.13	27.96	21.34	25.48	31.50	17.12
45	11.55	31.70	39.32	31.25	32.00	25.31	28.13	21.26	25.38	31.29	17.15
48	11.31	31.52	40.12	31.05	31.83	25.64	28.31	20.80	25.37	32.59	16.66
51	11.47	31.30	38.63	32.01	31.50	26.07	27.90	20.97	24.78	31.65	16.54
54	11.27	31.57	40.00	31.81	32.37	24.51	27.36	21.11	25.35	30.40	15.83
57	11.41	31.00	39.51	30.76	31.58	24.88	27.24	20.76	24.88	30.55	15.74
60	11.25	30.35	37.83	31.34	32.48	24.31	26.43	20.79	24.65	28.62	15.77
63	11.26	30.65	37.81	29.60	30.76	23.46	25.80	19.95	24.95	26.74	14.84
66	11.74	30.36	37.17	30.62	31.58	23.36	27.03	19.87	24.67	28.28	15.36
69	12.92	29.25	35.22	30.70	32.39	23.69	28.95	19.43	24.94	29.01	15.31
72	11.45	27.10	33.19	29.29	32.21	23.88	26.23	18.19	25.54	27.81	15.26
75	10.35	26.22	29.42	27.17	31.98	23.53	24.59	17.86	26.30	25.83	14.14
78	10.92	25.54	25.36	27.72	32.01	22.83	22.81	17.73	26.95	25.17	14.37
81	10.58	24.46	20.79	26.92	31.89	22.92	22.25	17.02	28.10	25.21	14.08
84	10.90	24.02	18.71	26.82	29.27	21.81	21.11	16.52	29.40	24.23	14.95
87	10.69	23.61	16.49	26.66	29.98	21.62	20.85	16.37	30.38	22.82	14.02
90	10.46	23.32	15.52	25.65	29.11	21.20	18.49	16.28	31.59	21.98	14.60
93	10.51	23.01	15.71	25.74	29.21	20.92	19.21	16.02	32.01	22.20	14.13
96	10.41	22.77	15.42	25.40	29.07	20.88	19.77	15.74	33.64	22.50	14.00
99	10.64	22.34	15.00	25.36	26.50	19.59	17.67	15.46	33.77	22.29	14.31
102	10.73	22.36	14.55	24.43	26.71	19.59	17.26	15.37	32.99	20.56	13.61
105	10.47	21.99	14.37	25.03	25.79	18.75	17.37	14.86	34.22	18.84	13.67
108	10.43	22.12	14.44	24.99	26.12	18.07	17.08	14.88	34.53	20.00	13.57
111	10.51	21.57	14.01	24.85	26.31	19.28	16.97	15.43	34.07	19.05	14.36
114	10.64	21.66	13.85	24.38	25.45	17.95	16.14	14.89	34.05	19.19	13.93
117	10.57	21.17	13.68	24.74	23.89	16.78	16.07	14.87	34.02	18.01	13.93
120	10.40	21.18	13.62	24.64	24.73	16.58	15.22	14.65	33.73	17.45	13.88
123	10.49	21.46	13.85	23.78	24.80	16.64	15.94	14.10	34.14	17.62	13.43
126	10.34	21.18	13.49	23.99	25.26	16.85	15.69	14.81	34.10	19.14	13.38
129	10.48	21.17	13.91	23.49	24.81	17.12	15.66	14.78	33.89	17.72	14.14
132	10.49	21.10	13.34	24.44	24.57	16.88	14.52	14.69	33.83	18.17	13.48
135	10.25	20.61	13.34	23.60	24.16	16.33	14.98	14.20	33.75	17.21	13.76

Table B.4B. Continued.

Time (sec)	Cell 67	Cell 68	Cell 69	Cell 70	Cell 71	Cell 72	Cell 73	Cell 74	Cell 75	Cell 76	Cell 77
138	10.36	20.73	12.68	24.06	21.84	15.32	14.74	14.12	32.80	16.64	13.86
141	10.70	20.81	12.88	23.35	21.87	15.08	14.11	13.80	32.51	16.29	13.27
144	10.48	20.30	11.91	23.65	22.33	14.71	14.24	13.95	32.68	15.09	13.66
147	10.29	20.23	12.64	23.34	21.85	14.86	13.71	14.07	32.23	15.63	13.19

Table B.4B. Continued.

Time (sec)	Cell 78	Cell 79	Cell 80	Cell 81	Cell 82	Cell 83	Cell 84	Cell 85	Cell 86	Cell 87	Cell 88
0	30.45	22.89	24.73	37.12	39.30	35.13	29.51	34.80	27.66	19.44	30.01
3	28.24	21.13	24.58	37.30	38.08	34.85	28.76	34.26	26.93	19.51	30.12
6	29.36	21.78	24.65	36.49	35.94	34.38	29.87	34.45	27.38	19.21	28.56
9	26.12	21.98	24.58	37.56	36.18	35.07	28.64	34.34	27.80	19.22	29.46
12	29.22	21.61	24.68	37.57	35.62	34.45	28.31	33.97	25.98	19.12	29.19
15	27.30	21.33	24.34	34.32	36.34	34.37	28.30	34.55	27.05	18.51	29.21
18	26.86	21.94	24.26	35.58	35.63	33.70	29.27	33.74	26.85	19.21	27.92
21	26.45	22.77	24.02	36.21	34.15	33.96	28.00	33.70	25.99	19.12	28.67
24	27.34	22.07	23.85	33.54	31.16	33.82	27.37	33.84	26.38	18.28	28.58
27	26.88	22.86	23.62	34.75	32.17	33.65	25.29	33.92	26.33	17.61	28.29
30	25.28	22.07	23.46	33.97	30.29	33.57	26.99	33.74	25.18	18.45	28.53
33	25.93	21.81	23.52	32.69	29.35	32.56	26.98	32.69	25.07	17.90	28.60
36	26.52	22.62	23.40	33.81	29.46	33.22	25.72	33.16	26.55	17.95	28.26
39	27.76	21.91	23.51	33.85	28.87	32.20	26.65	33.13	25.75	17.96	28.67
42	25.74	22.77	23.36	34.16	29.73	32.46	26.61	32.91	25.39	18.36	28.54
45	26.33	22.27	23.05	33.60	28.65	32.09	25.67	32.46	25.63	17.46	27.87
48	26.22	21.44	23.17	33.73	29.03	31.83	25.51	33.32	25.60	18.39	28.35
51	27.24	22.40	23.26	34.00	29.49	32.30	27.16	32.79	25.90	18.27	27.24
54	26.35	22.33	23.19	32.54	27.20	31.97	26.02	32.52	25.57	17.98	27.38
57	24.98	22.19	22.75	32.22	26.80	31.48	26.21	31.67	25.62	17.28	27.02
60	26.75	21.88	22.62	31.78	24.47	31.48	25.57	31.30	24.03	17.34	27.14
63	26.78	22.20	22.83	32.15	24.95	32.01	24.36	31.30	24.73	17.82	26.82
66	25.56	22.18	22.73	30.84	24.44	31.15	23.68	32.56	24.46	17.83	27.46
69	24.28	23.31	23.37	31.64	23.28	31.44	24.93	30.19	25.05	18.19	26.44
72	22.34	22.95	25.66	28.68	21.36	31.27	23.33	26.34	21.81	19.03	25.01
75	23.44	22.07	26.30	26.31	20.20	30.17	22.61	24.08	20.28	19.87	22.72
78	20.93	20.24	26.99	23.02	18.29	29.41	23.36	22.81	19.90	20.95	22.86
81	17.39	19.23	27.32	20.03	17.24	28.26	22.01	21.00	19.51	20.87	21.38
84	14.60	16.57	27.16	17.90	16.71	27.53	21.43	19.66	19.49	21.69	21.05
87	14.80	15.39	26.72	16.12	16.74	27.57	19.93	17.96	19.14	21.16	20.37
90	13.47	14.45	26.42	16.02	16.65	27.11	20.15	17.17	18.39	21.44	19.92
93	13.29	15.02	26.03	15.35	16.38	27.75	20.10	16.01	18.59	22.60	20.08
96	11.82	14.50	25.74	14.42	16.57	27.54	19.06	15.48	18.48	22.05	19.83
99	12.15	14.24	25.90	14.31	16.00	28.07	19.73	14.62	18.84	22.18	19.33
102	11.34	13.56	25.39	13.58	15.10	27.31	19.15	13.55	17.86	20.71	19.05
105	12.01	12.85	24.79	13.56	14.74	25.21	19.35	13.02	17.81	21.59	19.00
108	12.35	13.63	24.93	14.20	15.43	26.22	18.72	12.55	17.84	20.07	18.77
111	11.71	13.75	25.16	12.69	15.38	26.05	19.47	12.50	17.69	20.71	18.29
114	11.35	12.97	24.82	13.80	14.76	25.45	19.61	12.41	17.38	20.53	18.20
117	11.76	12.52	24.51	13.13	14.67	24.84	18.77	12.21	17.17	20.31	18.17
120	12.00	12.53	24.41	14.03	14.08	25.38	18.82	12.23	17.73	20.32	18.03
123	12.22	11.96	24.01	13.27	13.82	25.45	18.63	12.05	17.47	19.75	18.30
126	12.51	12.66	24.16	13.48	14.48	26.01	18.14	12.09	16.66	19.62	18.20
129	12.06	12.84	24.08	12.99	14.46	25.43	17.96	12.32	18.02	19.99	17.89
132	11.91	12.27	24.12	13.01	14.03	25.25	18.31	12.57	16.72	19.41	17.97
135	11.97	12.97	24.18	13.51	13.40	25.17	18.70	12.08	18.23	19.29	17.86

Table B.4B. Continued.

Time (sec)	Cell 78	Cell 79	Cell 80	Cell 81	Cell 82	Cell 83	Cell 84	Cell 85	Cell 86	Cell 87	Cell 88
138	12.24	12.51	23.95	13.19	13.58	24.94	17.92	12.07	17.81	20.03	16.99
141	11.67	11.69	23.41	13.20	13.23	23.20	17.46	11.96	17.44	18.80	17.01
144	11.82	11.82	23.35	12.72	13.21	23.47	17.86	11.66	17.71	18.98	16.97
147	10.70	11.72	23.51	12.85	12.73	24.10	18.34	12.10	17.16	19.09	17.13

Table B.4C. Calcium Dynamics data for differentiating Day 2 SH-SY5Y cells cultured in 3-D collagen hydrogel. Data was used to generate Table 1.

Time (sec)	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5	Cell 6	Cell 7	Cell 8	Cell 9	Cell 10
0	0	38.88	63.63	75.79	35.80	59.75	21.39	56.00	47.50	65.75
5	5	44.00	67.50	72.16	30.20	65.25	21.13	55.00	44.50	65.00
10	10	39.56	64.63	72.92	30.50	56.25	21.21	58.50	49.25	64.50
15	15	46.38	55.50	72.45	29.00	61.75	21.28	51.50	43.88	70.08
20	20	43.00	72.63	71.79	26.30	64.50	21.15	42.50	40.00	67.08
25	25	40.88	64.63	73.16	31.30	60.75	21.19	56.00	41.00	69.17
30	30	40.88	63.88	72.64	31.40	72.75	20.92	50.50	35.63	62.00
35	35	42.50	73.00	73.20	32.20	56.75	21.05	53.50	35.50	64.17
40	40	44.00	67.38	71.78	26.70	68.50	20.56	27.50	33.13	64.33
45	45	48.38	65.88	71.55	25.60	68.50	20.50	69.00	32.88	62.67
50	50	43.88	61.38	71.14	26.00	73.75	20.59	46.00	29.75	68.75
55	55	43.50	67.38	71.26	27.10	63.50	20.43	46.00	31.63	60.58
60	60	43.50	67.38	71.26	27.10	63.50	20.43	46.00	31.63	60.58
65	65	44.44	76.38	70.19	26.80	54.75	20.42	40.50	26.88	57.92
70	70	43.56	76.25	73.88	23.70	65.50	20.43	36.50	26.25	62.92
75	75	45.50	73.50	73.71	30.00	58.75	20.33	41.50	26.25	63.08
80	80	43.63	71.63	72.27	26.50	69.50	20.45	48.50	29.63	68.42
85	85	44.88	72.25	70.31	25.80	57.00	20.29	29.50	30.00	66.92
90	90	48.44	72.00	71.86	25.50	63.75	20.35	46.00	29.50	63.42
95	95	44.00	75.25	73.35	30.10	57.00	20.38	43.00	22.63	62.17
100	100	43.63	75.50	74.63	29.90	61.75	20.39	37.00	33.38	57.42
105	105	40.81	74.13	73.61	28.10	64.25	20.39	39.50	29.13	63.00
110	110	45.50	74.63	70.82	25.10	53.50	20.27	49.50	29.63	62.67

Table B.4C. Continued.

Time (sec)	Cell 11	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21
0	7.12	19.50	14.75	10.04	15.36	8.50	16.09	21.78	11.25	12.50	8.05
3	7.11	24.20	18.88	10.82	17.27	6.83	14.20	24.94	22.67	9.71	12.74
6	7.12	21.30	19.38	14.11	10.27	17.00	14.07	25.67	22.08	10.05	11.47
9	7.11	19.60	31.13	13.96	10.82	12.33	17.47	28.56	16.25	13.86	8.95
12	7.07	28.70	25.00	13.71	12.91	12.00	18.89	20.56	24.08	11.52	11.16
15	7.06	11.30	10.75	10.61	9.36	10.83	13.76	30.00	14.17	14.55	7.95
18	7.10	13.50	21.88	12.07	12.09	10.83	11.36	25.50	21.08	11.71	12.16
21	7.07	29.50	19.00	10.71	7.64	9.83	14.58	31.06	14.75	13.67	10.63
24	7.09	16.60	22.00	12.96	15.82	12.17	15.04	32.83	16.08	12.29	10.74
27	7.10	17.10	18.25	12.61	12.55	7.00	13.33	23.00	16.17	15.67	10.00
30	7.11	19.90	16.38	11.61	11.55	5.33	18.36	21.61	19.75	13.31	10.53
33	7.09	13.50	15.88	10.86	15.36	7.67	16.09	23.61	24.17	13.29	7.16
36	7.08	14.80	9.75	9.18	22.18	11.33	20.11	30.94	18.83	10.83	9.68
39	7.11	18.80	17.63	11.93	8.36	11.33	16.82	30.44	16.08	11.31	9.11
42	7.09	12.90	22.13	11.82	8.00	10.00	15.67	19.44	21.75	10.55	9.58
45	7.08	18.20	13.38	13.61	13.09	6.50	18.40	25.78	20.67	13.62	8.37
48	7.10	24.10	13.25	14.04	18.27	6.00	15.51	26.44	21.00	10.36	7.47
51	7.06	14.60	21.38	9.46	7.73	7.00	16.53	20.00	24.92	9.81	9.63
54	7.07	20.90	24.63	14.43	11.82	20.33	20.18	22.33	15.67	12.12	11.37
57	7.06	19.20	19.38	16.93	6.91	6.50	13.04	21.61	18.42	13.90	8.63
60	7.06	11.80	18.25	12.54	18.27	12.33	13.49	23.06	19.08	14.62	11.53
63	7.08	17.50	11.63	10.25	9.55	28.00	15.07	27.67	14.50	12.55	10.42
66	7.05	24.80	22.13	14.71	8.82	23.83	15.13	26.44	21.58	13.50	8.32
69	7.05	26.40	13.63	13.25	11.18	9.67	14.13	17.22	18.75	16.14	12.47
72	7.04	16.70	15.00	11.11	15.55	5.33	15.73	20.72	15.08	14.33	9.16
75	7.04	8.50	23.75	14.14	10.36	7.33	14.56	28.06	14.83	12.52	10.58
78	7.04	19.40	17.88	9.36	9.00	10.17	17.62	18.33	16.00	11.74	9.11
81	7.04	19.40	16.00	10.21	9.91	4.83	12.76	27.00	19.67	12.45	7.00
84	7.06	17.30	16.50	11.46	11.09	9.33	16.71	23.50	18.75	9.40	9.16
87	7.05	17.30	14.63	9.82	10.45	7.00	17.82	20.06	18.58	11.21	9.32
90	7.05	18.80	12.00	15.21	13.00	12.33	16.04	21.22	24.17	13.67	8.53
93	7.03	30.10	23.25	10.54	14.55	13.50	12.87	23.83	16.75	13.83	7.47
96	7.04	23.30	17.50	14.68	17.64	6.67	10.89	18.28	17.17	14.33	8.53
99	7.04	18.80	28.63	5.14	6.36	8.83	16.47	20.28	17.17	12.71	24.74
102	7.04	19.30	24.75	6.14	6.55	8.33	15.64	18.61	17.00	12.79	13.05
105	7.08	21.20	11.88	4.82	5.91	10.83	16.18	21.39	14.00	13.02	12.00
108	7.09	22.80	9.63	5.07	4.64	10.00	11.58	17.06	17.83	12.24	15.26
111	7.06	14.70	10.13	4.64	8.09	5.50	18.20	15.67	16.42	13.88	7.16
114	7.08	20.30	15.13	5.36	4.91	13.83	14.60	21.11	15.92	12.67	5.58
117	7.09	22.20	21.13	4.82	5.82	10.33	15.00	24.11	11.92	12.12	6.68
120	7.05	21.30	13.00	5.25	4.91	6.00	15.89	22.44	18.08	10.57	6.68
123	7.01	20.50	12.25	5.61	5.18	10.00	18.93	20.61	17.75	11.02	5.42
126	7.03	18.40	18.63	5.86	5.27	12.83	19.40	24.17	17.08	12.40	5.47
129	7.02	28.60	14.00	4.64	5.73	16.67	16.60	20.78	26.67	13.07	4.63
132	7.04	24.70	26.50	5.00	6.00	6.33	15.84	24.28	29.33	10.86	5.63
135	7.05	20.80	25.38	5.89	4.45	13.17	18.29	16.83	15.83	11.81	4.79

Table B.4C. Continued.

Time (sec)	Cell 11	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21
138	7.03	19.40	13.25	5.07	5.82	5.83	12.51	20.78	25.33	11.45	4.95
141	7.01	32.20	16.38	5.07	5.09	4.83	15.09	23.83	25.17	12.12	4.42
144	6.99	27.30	14.50	5.36	6.91	12.00	16.53	18.89	26.83	14.90	6.95
147	6.96	35.10	19.75	5.79	4.73	7.67	14.11	20.89	18.67	12.98	9.79
150	6.96	30.50	29.25	4.96	4.73	5.67	15.20	23.83	17.08	9.81	13.47
153	6.92	27.50	10.63	4.86	7.36	8.33	15.49	26.17	28.33	11.48	13.47
156	6.91	22.60	23.63	4.82	6.09	4.67	18.64	16.78	21.58	13.52	14.32
159	6.95	26.70	15.00	5.61	6.00	7.50	16.07	19.56	25.50	11.90	6.11
162	6.93	27.20	15.88	5.11	5.36	11.67	14.27	19.17	16.92	12.50	5.05
165	6.92	5.70	12.50	5.61	5.64	5.33	14.18	16.11	18.33	13.02	5.95
168	6.89	26.80	12.50	6.07	4.64	5.50	15.22	23.94	23.58	10.55	4.89
171	6.90	24.40	14.50	5.46	5.27	6.67	14.31	21.00	27.75	15.02	4.79
174	6.88	13.40	15.00	5.57	5.18	6.67	15.16	17.56	18.25	10.43	5.21
177	6.91	21.80	14.50	6.04	4.73	6.67	15.58	20.56	19.83	12.19	4.89
180	6.88	14.60	22.25	5.50	7.09	16.83	20.18	16.33	17.58	11.79	4.79
183	6.87	9.80	13.38	5.14	5.55	4.33	14.47	20.83	22.58	13.62	5.05
186	6.88	17.40	14.25	6.25	4.91	4.50	16.38	15.61	17.58	13.24	4.53
189	6.89	33.00	21.50	5.00	6.45	15.00	16.00	14.06	20.25	10.71	5.84
192	6.85	28.20	13.13	6.46	5.09	10.83	13.20	14.94	19.08	12.14	4.84
195	6.83	14.50	24.50	5.79	5.18	6.17	16.58	15.33	22.25	10.29	4.95
198	6.83	13.90	12.75	5.21	5.18	7.17	20.02	12.39	20.58	12.02	6.68
201	6.83	22.20	8.88	5.68	5.91	10.00	13.62	21.06	18.50	12.93	4.79
204	6.86	34.50	14.00	5.39	6.36	8.83	14.00	19.17	16.67	13.45	6.42
207	6.84	24.40	16.38	5.93	5.36	7.17	13.58	18.22	23.75	11.74	6.26
210	6.84	20.90	29.38	5.00	6.00	7.33	20.53	20.61	21.00	11.29	4.74
213	6.85	20.20	9.88	5.04	4.91	11.33	14.36	21.28	20.75	11.24	4.89
216	6.84	27.90	11.63	6.18	4.45	8.67	13.58	20.94	13.83	12.00	5.37
219	6.87	26.90	23.75	5.29	5.18	7.33	18.58	18.33	29.67	12.14	4.68
222	6.86	18.90	17.75	4.68	6.00	10.00	14.84	22.67	11.83	9.48	5.68
225	6.87	30.30	20.00	6.32	4.73	7.17	12.96	16.33	17.25	10.33	4.89
228	6.85	19.80	11.75	4.68	7.55	13.67	15.13	15.39	19.50	13.29	5.58
231	6.84	33.10	28.63	4.96	6.09	8.83	16.02	23.56	16.67	13.52	4.68
234	6.84	12.80	13.63	5.82	4.91	9.50	17.87	20.28	16.83	16.76	5.11
237	6.85	26.50	29.88	4.96	4.82	15.00	16.78	18.28	17.17	13.21	5.16
240	6.86	39.80	9.50	5.29	4.82	10.33	12.00	16.11	16.17	11.07	5.21
243	6.84	23.50	17.25	5.57	5.09	6.17	15.98	16.89	18.75	13.31	5.42
246	6.84	25.40	15.25	5.50	6.00	5.33	15.18	19.33	18.42	15.29	6.79
249	6.82	29.00	14.13	7.04	4.55	19.83	15.07	19.44	19.67	12.98	7.00
252	6.86	17.70	15.38	5.39	5.18	10.33	18.18	17.11	16.67	12.45	6.05
255	6.84	22.10	12.13	5.61	5.73	6.67	23.31	13.56	18.33	11.50	5.63
258	6.85	27.00	18.25	5.46	5.27	8.83	14.69	21.56	21.17	12.79	5.11
261	6.83	22.20	11.13	5.25	5.09	10.33	16.07	24.56	16.50	11.86	5.37
264	6.84	34.10	19.00	6.29	5.00	9.67	13.98	21.17	20.08	11.79	6.68
267	6.82	25.40	21.50	5.36	4.91	15.33	16.31	24.22	24.67	13.98	6.32
270	6.81	17.10	17.88	5.21	4.82	9.33	15.29	21.11	19.25	12.50	7.47
273	6.82	15.50	10.63	6.00	4.91	9.33	18.22	14.56	21.50	10.98	6.26

Table B.4C. Continued.

Time (sec)	Cell 11	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21
276	6.84	23.10	21.38	4.79	5.18	13.67	14.11	16.33	25.00	16.26	276
279	6.82	27.00	18.63	4.82	5.00	13.67	20.53	17.61	14.00	11.45	279
282	6.84	21.10	15.50	4.93	5.09	7.17	16.07	13.72	7.25	18.38	282
285	6.84	21.70	23.13	5.93	4.82	13.17	15.93	18.50	11.25	12.98	285
288	6.85	21.10	16.75	5.25	5.09	6.00	16.60	17.50	13.50	15.02	288
291	6.84	24.10	21.63	5.04	6.45	14.50	17.49	15.78	11.25	12.19	291
294	6.84	21.70	21.13	5.18	8.27	12.67	15.98	24.56	10.33	13.71	294
297	6.86	24.80	15.00	4.82	5.36	26.67	17.82	23.61	10.92	10.62	297
300	6.86	12.70	28.50	5.68	4.91	17.67	19.16	20.33	16.33	10.79	300
303	6.88	19.30	15.88	4.93	7.73	8.00	15.73	21.72	11.42	11.81	303
306	6.88	20.10	17.88	5.86	5.27	6.83	17.33	11.72	8.17	13.69	306
309	6.89	30.30	15.63	6.14	4.45	12.67	14.62	19.83	9.92	11.95	309
312	6.85	21.20	18.13	4.82	5.91	16.67	20.80	18.11	12.17	11.48	312
315	6.87	24.60	13.13	4.93	8.64	5.67	16.80	18.39	7.00	16.98	315
318	6.86	14.60	24.38	6.36	4.82	6.17	19.80	23.83	13.00	12.67	318
321	6.87	21.00	21.13	4.79	4.73	10.83	15.93	21.33	12.58	15.19	321
324	6.87	24.00	23.00	5.75	5.00	8.50	15.13	19.06	9.50	14.29	324
327	6.87	16.90	11.50	7.00	4.64	13.83	12.51	21.33	10.50	14.31	327
330	6.89	24.30	16.88	5.18	5.00	13.33	16.76	19.39	12.75	11.00	330
333	6.85	23.00	15.13	5.57	5.55	9.83	15.02	20.22	10.58	10.21	333

Table B.4C. Continued.

Time (sec)	Cell 22	Cell 23	Cell 24	Cell 25	Cell 26	Cell 27	Cell 28	Cell 29	Cell 30	Cell 31	Cell 32
0	19.97	7.69	9.78	19.50	18.36	15.90	35.80	5.86	17.13	17.13	19.75
3	14.57	7.20	10.72	17.15	24.71	23.10	35.30	7.17	19.63	11.88	21.25
6	16.90	8.32	12.36	10.20	20.43	17.38	26.90	5.86	21.25	14.75	17.75
9	13.93	8.88	13.28	9.70	18.76	18.28	27.65	6.76	9.50	10.25	17.00
12	15.93	6.99	11.39	7.35	24.14	15.83	30.25	8.41	16.13	17.25	24.08
15	18.73	7.10	11.31	10.30	20.57	9.59	36.75	5.86	13.75	18.63	19.50
18	10.70	8.83	13.31	6.85	22.59	10.69	33.10	5.72	12.88	9.00	29.75
21	14.37	9.10	10.75	7.20	23.22	12.07	20.35	4.83	12.75	13.50	27.50
24	20.47	7.38	12.33	6.75	21.17	9.48	18.60	6.14	16.88	6.75	22.17
27	26.03	9.59	9.81	6.10	24.31	10.55	29.80	6.79	12.88	10.63	21.75
30	18.90	10.68	13.69	6.15	23.07	8.31	18.80	6.55	18.25	13.75	26.17
33	21.87	9.96	10.28	6.40	20.74	8.59	32.20	6.17	13.25	12.50	14.83
36	22.43	8.98	10.03	9.25	21.81	9.41	34.40	9.03	13.00	8.88	21.50
39	19.37	9.77	11.67	6.15	17.45	8.07	27.65	7.59	15.13	8.00	24.00
42	16.50	8.98	12.92	6.95	21.59	8.31	24.40	7.86	12.63	12.25	16.92
45	18.37	10.27	11.78	7.15	22.64	8.97	33.60	9.52	11.88	14.88	15.25
48	16.17	10.00	8.33	8.45	20.59	8.76	33.15	16.03	12.25	12.88	20.92
51	16.90	10.48	8.94	5.95	16.40	9.66	28.25	18.69	10.50	15.88	14.83
54	20.50	10.21	9.44	6.95	20.14	10.41	28.40	15.59	15.25	23.63	23.58
57	18.37	9.58	11.67	6.45	18.59	9.24	27.90	17.31	17.00	9.88	22.25
60	15.93	8.09	13.39	6.20	20.14	8.00	25.65	16.79	8.75	9.75	18.67
63	15.83	9.43	9.36	5.85	15.84	8.07	28.15	18.83	6.00	10.75	23.75
66	21.27	8.56	10.19	6.20	25.02	8.76	24.15	12.03	13.88	11.88	23.08
69	17.20	8.21	9.14	6.75	21.14	8.07	28.00	10.03	9.25	8.63	26.58
72	22.03	7.42	11.75	6.80	17.09	6.10	21.10	7.90	9.63	12.25	18.00
75	25.13	7.43	10.86	5.65	20.66	8.24	25.45	16.62	9.00	7.88	33.83
78	17.93	7.57	8.53	6.35	20.24	9.34	22.30	15.34	9.13	9.38	33.00
81	14.00	8.10	13.33	6.55	17.16	7.69	24.10	12.28	6.00	7.25	35.17
84	17.23	7.32	9.86	6.30	15.05	8.69	13.00	14.34	6.13	6.25	36.50
87	19.07	7.91	11.33	6.00	19.66	6.24	21.25	12.24	6.13	6.75	43.17
90	19.47	8.61	9.25	6.80	20.78	9.31	26.85	11.48	4.88	7.50	27.25
93	19.57	7.66	12.72	5.85	15.76	6.28	17.25	9.76	11.25	7.50	26.08
96	19.77	7.62	13.64	6.90	17.48	10.10	15.25	26.76	10.00	6.13	29.67
99	12.60	7.51	19.03	7.30	12.95	18.66	21.65	20.72	11.75	5.75	8.75
102	21.43	6.59	24.50	13.20	6.02	20.34	10.40	27.38	9.63	11.38	7.75
105	9.63	6.76	18.78	6.25	5.79	8.90	10.20	20.97	8.25	11.00	4.75
108	6.80	11.53	23.08	6.45	5.64	6.07	5.85	23.62	5.38	16.25	4.83
111	6.60	13.39	23.47	6.35	5.40	7.79	6.45	20.86	7.25	6.38	4.75
114	5.93	11.79	20.94	6.35	5.71	6.21	6.95	15.45	8.75	4.88	5.58
117	7.53	12.10	22.00	6.30	4.86	5.62	4.95	13.79	8.13	6.00	4.92
120	7.53	12.10	22.00	6.30	4.86	5.62	4.95	13.79	8.13	6.00	4.67
123	5.83	6.50	20.67	7.05	6.12	5.28	7.35	5.76	9.50	5.38	5.08
126	5.13	7.46	24.22	6.35	5.72	5.34	6.00	6.17	4.88	10.50	5.25
129	5.60	6.28	20.75	6.05	6.00	6.28	5.00	4.93	5.88	9.50	5.17
132	5.80	6.19	21.86	6.65	5.26	5.45	6.60	4.86	5.13	5.88	5.42
135	5.63	6.09	19.86	6.90	5.31	7.31	5.30	5.69	4.50	9.00	5.33

Table B.4C. Continued.

Time (sec)	Cell 22	Cell 23	Cell 24	Cell 25	Cell 26	Cell 27	Cell 28	Cell 29	Cell 30	Cell 31	Cell 32
138	6.37	6.04	17.19	6.55	5.38	5.38	7.70	5.10	7.38	6.25	5.00
141	5.50	5.96	20.19	6.50	5.59	5.21	6.50	5.69	5.00	4.75	6.75
144	6.70	5.61	26.64	6.40	6.16	5.31	6.00	5.38	5.00	5.00	4.92
147	5.20	5.83	21.83	9.05	5.45	5.52	5.00	5.03	4.88	4.75	5.08
150	7.60	5.90	18.00	13.35	9.19	5.24	4.90	5.62	5.63	5.88	5.33
153	5.50	5.98	17.72	6.90	7.57	5.34	7.75	6.31	6.38	4.50	6.42
156	5.67	5.98	20.14	8.30	5.40	5.69	6.85	5.10	6.00	8.63	4.92
159	5.47	5.81	24.19	17.60	6.59	6.24	5.80	6.79	5.25	6.13	5.17
162	5.47	7.68	19.03	17.05	5.48	5.45	8.00	6.24	5.88	5.25	5.17
165	5.70	14.91	18.53	6.40	5.43	7.72	7.95	6.07	8.50	5.25	5.33
168	6.20	6.71	18.56	6.50	6.02	6.41	6.45	5.45	5.75	6.38	7.25
171	6.00	6.17	21.08	8.20	6.62	5.31	5.30	6.21	4.63	6.00	5.08
174	5.73	7.68	16.56	10.80	5.05	5.07	6.25	5.59	4.88	4.50	6.08
177	5.50	14.93	22.53	8.20	6.26	5.21	7.20	5.38	9.00	5.13	5.83
180	5.37	13.47	16.17	5.80	6.64	6.86	5.20	6.48	8.38	4.25	5.33
183	6.40	6.39	21.64	7.15	5.60	5.38	6.50	5.90	6.75	4.88	4.92
186	6.43	6.30	22.11	7.00	5.64	5.45	5.00	5.86	6.13	4.25	5.00
189	6.30	5.86	18.33	7.05	5.97	5.79	6.20	6.62	4.38	4.25	5.25
192	6.13	5.68	18.19	6.90	6.21	6.14	6.20	6.28	7.63	5.13	4.83
195	5.43	5.81	19.53	6.15	4.84	5.79	5.00	5.79	5.13	4.88	4.92
198	5.47	5.84	17.47	7.15	5.36	5.59	5.65	5.45	4.75	4.50	6.50
201	6.30	5.91	21.19	6.45	5.71	5.41	5.30	5.10	5.88	5.38	5.42
204	5.53	5.78	20.17	6.80	5.24	5.07	5.75	5.21	4.63	4.88	4.92
207	5.97	5.86	19.14	5.85	5.12	5.83	5.00	6.45	4.75	5.13	6.83
210	6.93	5.91	21.92	6.70	6.12	6.34	5.65	4.86	5.63	6.75	5.00
213	7.10	6.04	18.50	7.15	5.36	6.14	6.60	6.10	8.88	6.38	6.25
216	5.97	5.63	18.03	6.25	5.41	5.38	4.85	5.72	7.38	4.75	6.50
219	5.40	6.07	18.75	6.80	5.88	5.24	4.65	5.72	5.38	4.25	6.25
222	6.13	6.12	22.86	6.60	9.71	7.52	5.85	5.28	5.25	4.38	4.83
225	6.27	5.79	21.61	7.35	16.90	5.14	6.05	6.59	5.50	5.75	5.25
228	5.43	6.32	17.47	8.90	5.83	5.79	6.00	6.24	6.13	10.13	5.75
231	5.53	6.93	19.97	7.40	5.41	5.79	6.50	5.07	5.25	7.00	5.42
234	7.33	7.87	19.69	7.90	5.88	5.24	4.80	6.86	5.13	6.75	7.42
237	5.63	9.63	19.03	9.55	5.64	5.34	4.90	6.76	8.25	5.50	6.50
240	5.80	9.36	20.61	7.60	5.59	6.10	7.00	5.38	4.75	5.00	4.92
243	5.77	6.73	21.22	12.35	4.93	6.52	4.90	5.38	5.38	5.25	5.92
246	6.33	6.51	18.14	11.90	6.55	6.14	6.15	5.14	6.25	4.63	5.25
249	5.47	6.11	16.89	11.50	5.24	5.24	6.05	6.62	5.63	4.50	5.67
252	5.67	6.24	21.86	9.40	5.22	5.45	5.75	5.07	5.13	4.88	5.67
255	9.93	6.08	20.14	7.25	5.72	5.17	6.15	4.72	5.13	4.50	7.17
258	9.20	6.18	24.17	5.95	5.71	5.38	4.70	5.93	5.25	4.63	5.58
261	9.77	6.16	24.28	7.40	4.95	5.45	5.25	5.14	5.75	4.75	5.25
264	5.77	6.17	18.14	6.15	5.41	6.10	5.70	5.41	4.63	5.13	5.17
267	9.10	6.33	16.58	6.05	5.43	6.03	5.50	5.38	5.00	6.25	5.00
270	6.80	6.02	19.14	7.50	5.60	5.66	13.90	5.10	5.00	5.88	5.17
273	7.57	5.73	16.22	6.60	5.14	5.52	4.95	6.10	7.13	9.63	4.67

Table B.4C. Continued.

Time (sec)	Cell 33	Cell 34	Cell 35	Cell 36	Cell 37	Cell 38	Cell 39	Cell 40	Cell 41	Cell 42	Cell 43
0	17.60	15.80	16.33	40.13	7.21	23.92	14.19	6.21	23.08	19.40	14.25
3	20.40	16.09	14.51	24.13	7.20	19.25	18.72	6.89	25.42	15.83	12.19
6	18.48	17.56	17.39	30.13	7.22	11.58	14.22	5.79	17.17	17.19	17.50
9	18.46	17.61	19.48	21.00	7.20	22.67	18.50	7.00	24.92	19.93	10.13
12	21.31	18.22	16.77	20.88	7.20	13.50	24.75	7.63	13.08	15.45	8.88
15	19.63	18.17	18.27	23.00	7.21	13.83	12.47	7.95	14.75	21.50	24.81
18	18.40	18.94	16.30	18.00	7.18	14.08	18.22	7.11	22.00	14.31	19.63
21	22.75	19.82	16.10	20.00	7.18	21.17	14.66	6.68	13.92	20.50	12.00
24	19.69	21.85	17.13	27.25	7.20	13.08	19.88	8.79	13.08	15.90	18.19
27	18.25	21.44	15.81	19.00	7.20	13.92	19.63	6.42	15.33	18.38	11.75
30	19.44	16.52	12.03	28.50	7.21	19.08	16.84	6.16	16.92	22.00	20.19
33	15.92	21.04	9.49	19.50	7.22	12.67	17.44	8.95	15.42	19.76	16.69
36	17.83	17.41	6.76	25.00	7.21	12.25	21.25	6.79	17.42	19.60	11.25
39	18.23	18.13	6.82	30.13	7.23	16.42	14.22	7.95	20.25	17.21	15.56
42	21.67	18.17	5.38	39.50	7.23	18.58	15.00	6.84	29.08	16.71	17.50
45	16.79	16.99	5.70	27.50	7.23	15.75	16.03	7.21	18.92	20.07	10.50
48	19.38	16.56	5.31	33.13	7.21	23.67	13.47	6.68	14.50	14.88	14.63
51	24.10	17.97	5.86	43.13	7.22	12.08	17.81	7.05	21.67	19.55	18.94
54	17.17	16.77	5.59	50.25	7.22	9.92	17.00	6.00	18.42	19.31	12.31
57	19.00	17.06	5.61	27.00	7.22	15.58	15.84	6.32	14.58	16.98	16.63
60	21.06	17.78	5.54	26.88	7.22	16.00	19.91	9.47	25.75	18.21	21.00
63	14.38	14.96	5.73	46.50	7.23	15.00	17.06	6.95	14.08	14.71	13.06
66	22.60	15.36	5.27	45.88	7.22	17.75	23.19	7.47	13.50	18.10	14.31
69	21.69	16.80	5.88	38.63	7.24	23.25	16.59	6.21	18.25	18.45	19.69
72	16.71	15.59	5.54	26.75	7.21	19.75	16.38	7.05	26.92	18.24	15.38
75	23.73	15.43	5.22	27.00	7.21	11.33	14.66	9.21	26.33	16.79	20.00
78	19.94	15.36	5.77	52.25	7.22	16.25	13.53	7.53	13.83	15.57	17.44
81	19.65	16.75	5.21	33.50	7.22	19.83	13.56	6.68	18.17	18.71	13.50
84	19.96	16.77	6.24	34.75	7.21	18.58	11.66	10.63	22.17	16.10	19.06
87	25.54	13.20	5.32	52.75	7.21	19.25	8.69	7.05	17.92	18.40	13.63
90	20.67	15.91	5.03	41.50	7.22	24.58	10.28	6.05	29.92	20.76	18.69
93	24.13	13.42	4.86	34.13	7.24	13.83	9.38	11.16	22.33	16.26	20.31
96	22.00	12.41	4.98	5.38	7.36	17.83	5.91	12.63	23.00	18.33	15.88
99	22.52	12.72	4.79	5.13	6.78	42.08	5.84	6.42	7.75	6.55	18.00
102	17.06	13.59	5.52	5.00	6.82	19.75	6.63	8.37	8.58	6.76	17.00
105	5.52	11.80	5.24	4.88	6.83	20.92	5.94	7.68	6.25	6.60	4.50
108	5.27	16.30	5.68	6.38	6.83	21.25	6.59	6.21	5.83	6.21	4.56
111	6.02	18.70	5.21	4.63	6.82	30.92	7.06	5.89	5.83	6.81	5.81
114	5.19	17.31	5.74	5.00	6.83	33.00	6.28	6.16	7.67	6.14	4.56
117	4.85	15.40	5.71	5.88	6.84	41.83	6.63	6.26	7.67	6.69	4.56
120	5.58	16.08	6.49	4.50	6.83	37.67	13.34	6.74	5.83	6.81	4.75
123	5.77	13.41	5.40	5.13	6.83	39.67	14.09	6.53	5.67	6.38	5.19
126	5.48	9.92	5.57	4.63	6.85	36.92	27.19	6.00	6.08	5.95	4.88
129	5.79	11.04	5.83	4.38	6.82	42.67	22.81	6.89	5.58	6.50	4.75
132	5.67	13.61	5.94	5.13	6.85	42.00	29.66	7.47	6.92	5.79	4.56
135	5.92	12.85	5.22	4.38	6.84	48.33	11.91	5.84	5.92	6.98	4.38

Table B.4C. Continued.

Time (sec)	Cell 33	Cell 34	Cell 35	Cell 36	Cell 37	Cell 38	Cell 39	Cell 40	Cell 41	Cell 42	Cell 43
138	6.48	13.45	5.31	5.13	6.83	38.83	8.16	5.58	6.00	6.19	6.63
141	4.94	12.96	5.86	4.50	6.85	42.83	7.47	6.26	5.75	6.31	4.69
144	6.31	11.01	4.96	5.00	6.83	52.00	6.38	5.53	7.92	6.14	6.19
147	6.85	10.13	5.19	5.13	6.82	49.17	5.63	6.89	7.25	6.19	6.63
150	5.31	11.55	4.99	4.38	6.83	55.33	5.50	7.32	6.08	6.57	5.25
153	5.60	10.08	5.45	4.75	6.83	46.50	5.72	6.21	5.50	6.79	4.75
156	6.31	10.19	5.00	4.00	6.85	56.50	7.56	5.89	5.75	6.21	5.94
159	5.44	10.03	5.04	5.00	6.85	47.92	6.16	5.95	7.00	6.38	6.50
162	5.98	13.31	5.26	7.88	6.86	48.83	6.03	6.11	7.17	6.10	5.75
165	5.29	13.51	5.41	4.75	6.86	59.50	5.38	5.89	6.50	5.83	4.63
168	5.75	15.12	5.18	4.63	6.86	47.75	6.72	6.16	6.33	6.60	4.50
171	5.69	16.69	5.63	7.63	6.88	50.33	5.84	6.74	5.92	6.50	5.19
174	5.08	13.65	5.96	4.75	6.88	62.75	6.59	6.79	6.75	6.74	4.50
177	4.98	14.76	4.95	6.00	6.88	55.67	5.69	6.63	6.67	6.26	5.19
180	5.58	13.38	5.30	4.13	6.87	45.67	5.78	7.21	6.42	6.95	5.06
183	6.54	13.98	5.06	6.63	6.87	45.58	6.25	5.42	5.67	6.21	4.63
186	5.25	12.39	5.06	4.25	6.89	43.92	5.91	5.79	5.83	6.10	5.56
189	5.04	15.36	5.27	5.88	6.86	52.00	6.16	5.84	6.58	6.17	4.50
192	4.98	14.96	4.84	4.63	6.87	47.33	6.31	6.47	5.83	6.57	6.13
195	5.38	16.24	5.82	4.75	6.88	65.00	6.19	5.84	5.50	6.43	5.00
198	5.00	14.53	5.40	4.38	6.88	45.75	5.88	7.16	5.67	6.64	5.44
201	5.58	13.56	5.71	4.88	6.87	57.75	6.53	6.68	6.00	6.69	6.31
204	4.98	14.92	5.05	6.00	6.87	48.92	5.59	5.79	7.17	6.38	6.81
207	6.06	15.08	5.49	4.38	6.86	63.17	5.72	5.68	6.25	7.64	5.06
210	5.81	13.90	5.19	5.25	6.86	49.83	5.63	5.79	5.92	6.00	4.56
213	5.19	14.05	5.20	4.75	6.88	73.92	6.25	6.32	5.50	7.45	4.81
216	5.75	14.87	5.23	6.25	6.87	47.75	6.13	6.16	6.83	6.02	6.44
219	5.42	15.26	5.48	4.88	6.87	47.92	6.34	5.89	6.08	7.31	4.56
222	5.92	12.61	4.89	4.38	6.86	56.17	6.38	6.53	5.75	6.79	4.56
225	4.92	14.00	5.46	4.63	6.87	65.50	5.94	6.00	5.75	6.31	4.56
228	5.90	12.74	5.11	4.75	6.87	58.33	6.09	5.79	9.08	5.69	6.88
231	5.23	15.65	5.45	4.50	6.85	48.42	6.09	5.58	5.92	6.40	6.19
234	5.71	13.80	4.88	4.88	6.85	70.92	6.03	6.37	6.25	5.95	5.31
237	5.02	11.28	4.89	4.00	6.83	45.75	6.84	6.26	7.08	6.98	5.50
240	5.25	12.52	4.97	5.75	6.83	50.00	6.22	6.00	5.75	6.26	4.56
243	5.52	12.22	5.17	4.88	6.87	43.50	6.00	6.53	6.00	6.60	6.38
246	5.15	11.69	5.56	4.25	6.84	42.92	6.34	6.68	6.42	5.98	4.63
249	5.00	13.01	5.17	5.38	6.86	50.83	6.78	5.95	6.17	6.45	4.69
252	5.98	12.70	5.43	5.00	6.86	68.25	6.25	5.95	6.83	5.95	6.31
255	4.81	12.87	4.61	4.50	6.85	49.00	6.44	5.95	6.08	6.67	4.75
258	4.79	12.50	5.41	4.50	6.84	54.83	6.03	6.37	5.58	6.48	5.81
261	5.10	12.75	5.27	4.63	6.84	58.08	5.94	6.05	6.25	6.33	4.63
264	5.54	12.03	5.03	5.38	6.84	70.75	6.56	6.42	6.00	6.21	5.88
267	6.29	12.41	5.55	4.63	6.84	44.67	6.22	7.37	5.92	6.81	5.94
270	6.13	12.11	5.44	4.38	6.86	51.25	5.88	7.89	6.50	6.74	5.06
273	6.17	13.59	5.91	4.88	6.87	66.42	6.22	6.42	5.75	6.31	4.94

Table B.4C. Continued.

Time (sec)	Cell 44	Cell 45	Cell 46	Cell 47	Cell 48	Cell 49	Cell 50	Cell 51	Cell 52	Cell 53	Cell 54
0	38.14	39.14	40.14	41.14	42.14	43.14	44.14	45.14	46.14	47.14	48.14
3	36.75	20.00	17.45	17.56	46.68	21.80	32.27	49.98	14.24	22.93	35.70
6	37.90	19.88	17.46	17.61	46.59	21.17	30.75	49.29	14.00	23.24	28.94
9	37.52	19.94	17.91	17.27	45.12	20.38	30.28	49.33	14.06	23.14	30.21
12	37.27	20.03	17.60	17.78	46.21	20.72	31.28	51.06	14.34	23.24	33.50
15	37.74	19.96	17.95	16.95	47.31	21.79	32.51	50.41	14.20	23.41	34.57
18	36.92	20.00	17.86	17.45	47.04	21.07	32.46	51.07	14.14	23.58	33.53
21	37.32	19.82	17.78	18.35	47.19	20.56	31.88	51.18	13.96	23.84	32.36
24	36.39	19.84	18.06	16.84	46.81	20.81	31.32	50.50	14.15	23.52	30.24
27	36.64	19.75	17.28	16.81	46.52	20.90	30.29	52.15	14.10	23.36	31.46
30	36.06	19.77	17.92	17.09	45.87	20.63	31.21	52.84	14.21	23.40	30.43
33	36.72	19.96	17.21	16.88	46.60	20.36	31.42	51.45	13.79	22.62	27.10
36	35.77	19.91	17.92	17.11	43.79	19.99	30.39	49.53	14.02	22.79	25.31
39	36.51	19.45	18.10	17.01	44.00	19.96	30.22	52.16	14.00	23.32	24.34
42	36.00	19.90	18.02	17.20	43.70	19.87	30.36	52.73	13.94	23.06	22.95
45	35.96	20.34	18.01	18.05	44.35	19.45	30.23	51.99	14.14	23.09	23.21
48	36.87	19.92	17.04	17.05	44.08	19.32	30.16	52.68	14.06	22.99	23.45
51	36.89	19.74	17.83	16.63	44.84	18.91	30.41	53.35	14.04	23.21	22.48
54	36.97	18.92	17.63	18.13	42.96	19.41	29.82	50.35	13.98	22.60	21.47
57	36.11	20.27	17.60	16.95	43.51	18.62	30.94	51.57	14.28	23.15	21.32
60	34.47	19.88	17.21	17.39	44.00	19.48	30.35	49.90	13.78	23.21	21.75
63	36.91	19.86	17.40	16.98	43.51	18.81	29.78	51.84	14.12	22.99	21.64
66	35.53	20.12	17.06	17.15	43.54	19.02	30.77	51.00	14.15	23.32	19.76
69	35.66	19.67	17.28	17.01	44.31	19.31	29.40	47.27	13.82	22.97	20.02
72	36.56	19.90	17.16	17.97	44.89	19.31	30.56	50.06	14.08	23.50	19.76
75	35.34	19.60	17.57	16.52	43.67	18.98	30.20	46.42	13.95	22.96	18.79
78	35.68	19.67	17.31	16.36	43.74	18.59	29.21	46.46	14.11	23.02	17.33
81	35.87	19.98	17.23	17.17	42.72	18.92	29.17	46.48	13.87	22.89	17.61
84	35.15	19.89	17.26	16.63	42.50	18.78	29.69	42.42	14.15	22.73	17.60
87	37.13	19.61	17.08	17.54	42.54	18.81	29.32	43.52	14.06	22.25	17.30
90	36.00	19.72	16.67	16.81	42.80	18.04	29.88	44.78	14.02	22.62	18.16
93	35.80	19.60	17.13	16.61	42.24	19.50	28.94	34.74	15.48	23.26	24.01
96	36.00	19.22	17.27	16.93	42.18	12.57	11.80	26.29	15.72	23.09	12.70
99	34.69	19.83	16.64	16.06	12.56	12.00	12.00	17.14	15.16	22.52	12.46
102	34.15	19.16	16.68	17.62	13.76	11.76	11.82	16.96	14.93	22.06	12.37
105	34.88	18.89	17.09	16.77	28.66	11.86	11.64	16.96	14.95	21.93	12.81
108	33.52	18.88	17.30	16.67	18.56	11.62	11.72	16.37	14.95	22.37	12.61
111	35.23	18.82	16.58	16.14	12.38	11.72	11.85	16.35	15.24	22.24	12.60
114	34.79	19.59	16.63	17.17	12.55	11.80	11.86	14.88	15.92	23.27	12.88
117	33.77	19.00	16.38	16.10	12.35	11.86	11.61	14.60	16.68	23.01	12.28
120	34.26	18.57	16.64	16.15	12.51	11.79	11.71	14.61	16.67	23.84	12.81
123	33.64	18.45	16.46	16.26	12.52	12.04	11.96	14.15	16.81	23.54	12.72
126	34.77	19.44	17.18	16.53	12.35	12.08	11.68	13.89	16.53	23.57	12.44
129	35.40	18.98	16.66	16.65	12.59	11.75	11.79	12.72	16.87	22.68	12.77
132	34.01	18.73	16.71	16.44	12.30	11.97	11.95	12.51	16.36	23.17	12.52
135	34.62	19.29	16.63	16.09	12.37	11.71	11.67	12.31	16.89	23.63	12.53

Table B.4C. Continued.

Time (sec)	Cell 44	Cell 45	Cell 46	Cell 47	Cell 48	Cell 49	Cell 50	Cell 51	Cell 52	Cell 53	Cell 54
138	34.17	19.01	16.39	16.58	12.16	11.82	11.75	11.98	18.41	22.78	12.58
141	33.21	18.67	16.59	16.68	12.41	11.63	11.80	12.09	19.38	20.89	13.24
144	32.96	18.77	16.58	16.13	12.38	12.10	11.64	11.90	19.97	20.18	12.37
147	33.49	18.96	16.00	15.60	12.64	11.72	11.63	11.93	20.33	20.15	12.84
150	33.94	18.66	16.27	15.98	13.41	11.67	11.74	12.10	20.06	20.49	12.38
153	33.82	19.09	16.45	16.29	12.18	11.61	11.75	12.01	19.79	19.98	12.53
156	33.62	18.87	15.86	16.63	12.37	11.86	11.72	11.84	20.18	20.65	12.79
159	33.87	18.59	15.85	16.39	12.32	11.60	12.04	12.07	20.34	20.61	12.77
162	33.39	18.57	17.07	16.83	12.55	11.83	11.96	11.83	20.19	20.35	12.73
165	33.47	18.55	16.02	16.33	12.51	11.79	11.73	11.79	20.21	19.70	12.59
168	35.03	18.73	16.56	15.56	12.27	11.79	11.76	12.06	20.20	19.87	12.34
171	33.49	18.13	16.05	16.49	12.35	11.81	11.72	11.81	19.98	20.11	12.57
174	33.70	18.90	15.90	16.03	12.41	11.63	11.81	11.97	20.27	20.18	12.48
177	33.42	18.77	16.56	16.20	12.30	11.86	11.69	11.59	20.63	19.18	12.54
180	33.40	18.48	16.07	16.22	12.46	11.60	11.65	12.14	20.18	19.73	12.80
183	33.13	18.46	16.09	15.97	12.49	11.72	14.06	12.32	20.44	19.38	12.34
186	33.28	18.12	16.17	16.84	12.50	11.71	14.56	11.94	20.56	19.85	12.70
189	32.96	18.58	16.69	15.86	12.35	11.73	12.22	12.21	20.77	19.62	12.67
192	32.15	19.29	16.00	16.60	12.46	11.53	12.12	11.62	20.64	19.57	12.73
195	33.45	18.81	16.65	15.56	12.58	11.65	16.88	12.15	20.29	19.61	12.58
198	32.19	18.50	16.37	15.52	12.33	11.58	12.74	11.86	21.11	19.80	12.23
201	33.23	18.47	16.35	15.69	12.44	11.74	11.65	11.98	20.90	19.51	12.88
204	32.70	18.89	16.24	15.82	12.37	11.79	12.13	11.93	20.76	19.51	12.39
207					12.47	11.53	11.86	11.96	20.65	19.85	12.66

Table B.4C. Continued.

Time (sec)	Cell 55	Cell 56	Cell 57	Cell 58	Cell 59	Cell 60	Cell 61	Cell 62	Cell 63	Cell 64	Cell 65
0	16.77	17.26	34.64	23.82	20.20	21.20	14.49	41.06	50.35	32.14	16.77
3	15.45	15.37	35.14	22.37	20.21	21.00	14.68	41.96	49.57	32.15	15.45
6	14.69	14.62	33.43	23.40	19.84	20.38	14.89	42.99	51.59	32.11	14.69
9	14.80	13.73	33.29	22.08	20.18	20.50	14.61	41.60	50.75	31.96	14.80
12	14.77	14.02	35.57	23.44	19.83	20.43	14.46	41.97	49.72	31.94	14.77
15	15.75	13.58	35.01	23.15	19.90	20.42	14.64	42.47	49.52	31.75	15.75
18	15.13	13.72	33.84	23.84	19.87	20.37	14.89	41.39	49.41	30.75	15.13
21	14.92	13.42	34.39	23.20	19.90	20.67	15.09	40.01	49.46	31.51	14.92
24	14.66	13.48	34.03	23.24	20.01	20.16	14.78	41.35	47.67	31.62	14.66
27	14.54	13.49	34.48	22.51	20.20	20.52	15.09	40.76	48.20	31.47	14.54
30	14.42	13.34	35.19	23.20	19.94	20.56	14.63	40.72	48.58	31.95	14.42
33	13.65	13.18	33.28	22.51	20.28	20.73	14.59	40.72	48.58	31.95	13.65
36	13.89	12.97	33.68	22.32	19.68	20.14	14.35	40.70	49.68	32.01	13.89
39	13.57	13.19	32.98	21.73	19.83	20.04	14.54	41.05	48.70	31.41	13.57
42	13.62	13.15	34.15	22.07	19.84	20.58	13.84	41.97	49.34	30.93	13.62
45	14.02	13.44	33.21	21.49	19.48	20.78	14.07	40.57	49.24	31.57	14.02
48	13.97	13.11	33.55	21.99	19.61	20.65	14.31	39.34	47.20	32.04	13.97
51	13.35	13.26	34.06	21.21	19.99	20.47	13.73	39.59	47.79	31.94	13.35
54	13.39	12.60	33.33	21.19	20.01	20.22	13.75	40.33	48.28	32.38	13.39
57	13.88	13.15	33.42	21.81	20.17	20.85	13.73	39.28	47.52	31.79	13.88
60	13.69	13.31	32.63	22.74	19.72	20.28	13.88	40.36	48.14	31.89	13.69
63	13.49	13.14	33.73	22.26	20.01	20.77	14.06	39.60	48.97	31.70	13.49
66	13.49	12.97	33.34	21.19	19.88	20.46	13.42	40.01	48.56	31.73	13.49
69	13.36	12.92	33.66	22.11	19.95	20.57	13.43	38.89	47.31	31.09	13.36
72	13.72	13.22	33.38	21.16	19.65	20.07	13.36	41.25	48.56	32.04	13.72
75	13.31	12.46	33.45	21.05	19.91	20.52	13.71	39.96	47.97	31.50	13.31
78	13.60	12.45	33.34	21.07	19.90	20.38	13.48	39.75	47.07	32.62	13.60
81	13.12	12.23	32.45	20.22	19.30	20.07	13.84	38.71	46.87	32.28	13.12
84	12.77	11.86	32.00	20.06	19.67	21.00	13.25	38.86	45.81	32.09	12.77
87	12.60	12.11	32.89	19.74	19.47	20.42	13.54	39.69	48.16	32.56	12.60
90	13.60	12.04	32.41	20.28	19.23	20.17	13.35	40.19	46.48	32.46	13.60
93	12.68	11.96	32.91	20.84	19.84	20.63	14.47	39.56	46.25	31.53	12.68
96	12.55	16.01	27.88	21.62	18.84	20.22	15.07	38.43	45.47	32.11	12.55
99	12.75	16.10	21.00	23.01	19.42	20.50	12.45	38.45	46.08	31.75	12.75
102	12.41	11.92	12.60	18.53	18.01	20.41	11.96	31.15	45.78	31.68	12.41
105	12.77	11.93	11.69	13.78	18.17	20.29	12.02	10.92	45.84	31.53	12.77
108	12.79	11.90	11.61	11.84	18.02	20.25	12.01	17.88	46.74	31.12	12.79
111	12.48	11.83	11.63	11.81	18.12	19.95	11.78	37.54	46.29	31.57	12.48
114	12.28	11.76	11.77	11.70	18.19	20.17	11.93	35.66	47.10	31.95	12.28
117	12.42	11.85	11.48	11.76	18.15	20.04	11.93	12.09	47.37	32.62	12.42
120	12.75	11.88	11.66	11.61	18.46	19.54	11.99	10.88	47.90	31.38	12.75
123	12.96	11.94	11.74	11.71	18.84	19.80	12.05	10.96	46.52	31.62	12.96
126	12.48	11.79	11.65	11.63	18.40	19.61	12.09	10.96	45.82	31.43	12.48
129	12.49	11.83	11.70	11.64	18.68	19.97	11.99	10.80	46.53	32.26	12.49
132	12.56	11.86	11.53	11.82	18.31	20.01	11.90	10.85	47.66	31.77	12.56
135	12.91	11.89	11.71	11.86	18.45	19.68	11.88	10.86	46.53	32.09	12.91

Table B.4C. Continued.

Time (sec)	Cell 55	Cell 56	Cell 57	Cell 58	Cell 59	Cell 60	Cell 61	Cell 62	Cell 63	Cell 64	Cell 65
138	12.79	11.87	11.84	11.94	18.56	19.51	12.08	11.25	46.17	31.69	12.31
141	12.90	11.98	12.02	11.84	18.21	19.78	12.15	10.89	45.02	31.85	14.17
144	12.55	11.73	11.52	11.65	17.98	19.61	12.08	10.87	44.03	31.32	21.23
147	12.60	11.94	11.65	11.73	18.20	20.14	12.00	10.99	44.73	31.89	21.85
150	12.71	11.84	11.70	11.87	17.52	19.73	12.26	10.93	44.99	32.01	12.87
153	12.40	11.96	11.62	11.94	18.41	19.38	11.94	12.83	45.09	31.99	11.37
156	12.63	11.86	11.88	11.64	17.95	19.90	12.02	21.45	46.67	32.69	11.28
159	12.58	11.80	11.57	11.76	17.60	19.73	11.99	11.29	47.53	31.96	11.35
162	12.81	12.02	11.73	11.55	17.77	20.00	12.14	11.08	48.42	32.48	11.34
165	12.45	12.12	11.66	11.54	17.56	19.52	12.16	11.03	47.09	32.32	11.44
168	12.63	11.92	11.88	11.78	18.19	19.96	12.05	11.11	47.49	31.92	17.99
171	12.55	12.05	11.87	11.83	17.78	19.91	11.94	10.94	46.86	31.25	16.13
174	12.37	11.99	11.61	11.71	18.02	20.00	12.01	11.20	47.19	31.25	11.35
177	12.65	11.91	11.59	11.69	17.88	19.79	12.15	11.01	46.98	31.67	11.41
180	12.74	11.91	11.69	11.92	15.34	20.18	12.02	11.19	45.66	32.15	11.27
183	12.54	11.77	11.75	11.70	10.98	19.85	12.04	15.60	46.44	32.35	11.41
186	12.58	11.80	11.68	11.68	10.86	20.13	12.32	10.99	46.04	31.79	11.36
189	12.53	11.93	11.67	11.90	10.88	20.41	11.99	10.94	44.85	32.02	11.41
192	12.50	12.00	12.12	11.78	10.91	19.78	11.94	10.98	45.95	31.79	11.41
195	12.62	11.99	11.72	11.62	10.81	19.84	11.87	10.97	45.65	32.13	11.41
198	12.69	11.83	11.83	11.71	10.89	19.59	12.12	10.87	44.34	31.58	11.38
201	12.59	11.82	11.67	11.65	10.87	19.77	11.96	11.03	44.29	31.49	11.45
204	12.54	11.94	11.53	11.72	10.81	19.61	12.02	11.14	44.07	31.17	11.33
207	13.02	11.92	11.93	11.75	15.05	19.69	12.01	11.06	45.63	31.95	11.54

Table B.4C. Continued.

Time (sec)	Cell 66	Cell 67	Cell 68	Cell 69	Cell 70	Cell 71	Cell 72	Cell 73	Cell 74	Cell 75	Cell 76
0	42.33	54.06	45.91	57.42	23.32	20.45	40.07	29.83	23.21	16.49	32.63
3	43.65	54.90	47.90	58.81	22.93	20.84	38.68	29.55	24.40	16.83	31.74
6	43.75	55.67	45.56	58.72	23.86	20.45	39.06	30.80	23.31	16.03	32.45
9	43.87	55.12	47.42	58.95	23.82	20.65	39.13	30.02	23.65	17.51	33.28
12	42.15	53.69	45.72	58.25	23.10	20.55	38.98	30.19	23.61	17.72	32.56
15	40.55	50.75	45.87	56.37	22.94	20.67	39.27	28.95	23.23	18.32	32.07
18	38.97	49.91	46.98	56.85	23.08	20.24	38.79	28.79	23.97	18.69	33.89
21	39.00	50.50	46.03	56.44	23.21	20.31	38.54	29.18	23.75	17.02	32.97
24	38.94	47.71	46.58	56.89	22.64	20.68	38.53	28.98	23.56	15.93	32.21
27	39.77	52.19	46.34	55.91	22.92	20.39	39.74	29.41	23.63	16.43	32.38
30	40.66	52.82	47.13	55.97	23.27	20.78	38.99	29.64	23.70	17.22	33.12
33	40.66	52.82	47.13	55.97	23.27	20.78	38.99	29.64	23.70	17.22	33.12
36	40.74	50.00	47.84	55.24	23.63	20.80	39.04	29.67	23.12	18.92	34.08
39	40.87	52.99	46.01	55.98	23.37	20.60	38.77	29.75	23.38	21.29	32.50
42	41.32	52.51	45.09	55.05	23.05	20.75	39.67	29.62	23.04	22.68	32.87
45	38.34	48.68	46.71	54.81	23.74	20.24	38.47	28.89	22.32	23.65	32.07
48	38.20	50.17	44.91	54.47	23.48	20.71	38.47	29.12	23.27	22.31	32.01
51	38.39	50.70	45.57	54.64	23.16	20.06	38.98	28.94	23.32	21.52	32.28
54	38.71	49.90	45.32	54.61	23.27	20.71	39.18	28.54	24.26	22.41	31.29
57	37.16	52.38	45.76	55.79	23.11	20.57	38.79	28.78	23.32	21.60	32.00
60	38.65	53.62	46.70	55.96	23.44	20.46	38.92	28.40	23.57	24.73	32.26
63	39.20	53.66	46.15	56.16	23.67	20.67	38.50	29.57	23.91	27.97	32.66
66	38.44	52.01	46.23	54.40	23.18	20.46	37.84	28.71	23.20	27.61	33.16
69	38.34	48.06	46.52	54.97	22.77	20.39	38.37	29.23	23.98	27.69	32.49
72	37.31	50.60	45.78	55.10	22.94	20.22	38.78	28.36	22.63	29.82	31.29
75	38.24	49.09	47.02	54.71	23.28	20.48	39.01	29.12	23.63	30.65	33.22
78	38.37	50.82	46.57	54.36	22.87	20.36	38.56	28.92	24.04	31.54	31.45
81	37.03	52.02	46.36	54.73	23.27	20.28	38.79	28.40	23.42	30.69	32.57
84	35.79	48.76	45.70	53.78	23.37	20.31	38.92	29.21	23.51	29.00	32.57
87	35.94	49.79	45.87	54.97	22.73	20.30	38.83	28.63	23.48	31.81	31.61
90	37.12	46.91	45.03	53.29	22.72	20.51	38.58	29.02	23.11	31.72	33.41
93	36.90	45.63	45.10	55.46	22.45	20.26	39.19	29.13	23.71	32.52	32.01
96	36.25	48.51	43.83	54.57	22.99	20.24	38.96	28.99	23.36	30.27	32.14
99	40.12	38.91	40.29	32.19	22.89	20.74	38.96	31.37	23.10	11.75	31.73
102	36.30	11.46	23.69	11.75	22.84	20.40	39.03	30.76	22.64	11.23	30.81
105	36.32	11.71	11.31	16.23	22.45	20.01	35.51	29.63	23.07	11.19	29.43
108	27.10	11.79	11.21	16.52	23.19	20.38	36.87	29.93	22.54	11.04	30.62
111	18.51	11.51	11.29	16.92	23.02	20.18	36.36	30.48	22.81	11.31	30.54
114	13.42	11.75	11.43	21.36	23.22	20.31	38.03	30.88	23.63	11.52	30.20
117	11.59	11.45	11.11	12.08	23.36	21.00	36.71	29.82	22.85	14.40	30.00
120	11.63	11.43	11.24	11.42	22.76	20.22	36.35	30.08	23.36	11.19	31.11
123	11.76	11.60	11.18	11.57	22.55	20.19	36.34	29.58	21.93	11.39	28.73
126	11.93	11.37	11.13	11.41	22.80	20.13	36.07	30.55	22.46	11.02	30.33
129	11.73	11.14	11.17	11.71	23.07	19.81	36.27	29.64	23.26	11.33	29.00
132	11.71	11.29	11.23	12.06	22.96	20.12	35.55	29.70	22.83	11.12	29.73
135	11.75	11.52	11.32	12.18	22.73	20.19	34.75	29.02	23.44	11.18	28.80

Table B.4C. Continued.

Time (sec)	Cell 66	Cell 67	Cell 68	Cell 69	Cell 70	Cell 71	Cell 72	Cell 73	Cell 74	Cell 75	Cell 76
138	11.69	11.49	11.14	11.38	22.40	20.10	35.00	29.31	22.99	11.19	30.43
141	12.76	11.53	11.08	11.11	21.97	20.31	35.18	29.46	23.31	11.31	30.33
144	18.46	11.50	11.37	11.51	22.95	20.36	35.04	29.05	23.28	11.48	29.08
147	14.76	11.64	11.19	11.44	23.03	20.40	34.77	28.91	23.53	11.20	29.48
150	11.72	11.64	11.34	11.53	23.07	20.33	33.72	28.13	22.46	10.99	26.80
153	17.56	11.46	11.43	11.53	22.84	19.99	33.32	27.82	23.62	11.17	25.36
156	21.88	11.26	11.19	11.58	22.67	20.08	32.34	27.70	23.26	10.79	24.46
159	11.90	11.47	11.45	11.53	22.65	20.16	32.06	26.87	23.06	11.40	23.30
162	11.80	11.31	11.13	11.49	23.25	20.12	32.08	27.35	23.31	11.12	22.44
165	11.95	12.82	11.16	11.39	22.75	20.29	31.03	26.44	23.20	11.67	21.23
168	11.77	11.69	11.15	11.58	22.35	19.67	30.90	26.69	22.72	11.40	20.71
171	11.65	11.33	11.00	11.91	23.10	20.08	30.20	26.65	22.92	11.41	20.88
174	11.68	11.56	11.21	12.31	22.62	20.15	29.66	25.15	22.40	11.38	19.16
177	11.81	11.33	11.10	11.57	22.76	19.85	29.44	24.61	22.38	11.23	18.74
180	11.89	11.17	11.18	11.48	22.84	19.99	29.55	23.75	21.63	11.78	17.78
183	11.61	11.30	11.24	11.44	22.59	19.74	29.25	22.21	22.69	11.39	17.36
186	11.58	11.06	11.16	11.76	22.93	20.03	29.76	21.45	22.36	11.52	17.55
189	11.99	11.28	11.09	11.46	22.38	19.50	28.89	20.77	22.98	11.05	16.72
192	11.59	11.47	11.30	11.56	22.90	19.73	29.05	19.99	22.40	11.04	17.09
195	11.78	11.39	11.37	11.53	22.18	19.67	29.23	20.31	23.55	11.35	16.56
198	12.01	11.45	11.22	11.59	22.64	19.43	29.90	20.36	22.71	11.26	16.51
201	11.91	11.50	11.21	11.30	22.74	20.13	29.16	19.47	23.64	11.19	15.98
204	11.88	11.29	11.12	11.51	22.04	19.87	29.37	19.00	22.50	11.19	15.98
207	11.68	11.28	11.34	11.76	23.02	19.86	29.82	19.06	23.34	11.15	15.67

Table B.4D. Calcium Dynamics data for differentiating Day 8 SH-SY5Y cells cultured in 3-D collagen hydrogel. Data was used to generate Table 1.

Time (sec)	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5	Cell 6	Cell 7	Cell 8	Cell 9	Cell 10	Cell 11
0	16.8	39.28	52	33.75	66.79	84.2	20.57	73.14	25.67	67.25	50.91
5	16.14	34.11	60.75	34.63	74.96	81.6	20.54	73.5	28.08	81.25	44.82
10	17.72	36.43	47.25	37.5	74	97.3	20.49	55.07	32.58	82.5	48.82
15	16.82	39.78	49.75	33.5	72.21	90.7	20.47	74.43	24.5	73.38	43.09
20	16.62	38.7	49	37.38	66.88	81.4	20.19	67.07	25.83	68.25	47.18
25	16.65	39.5	60.38	29.13	69.25	84.7	20.16	64.43	24.5	68.25	53.82
30	16.32	39.17	55.13	36.5	64.21	96.3	20.05	64.5	23.25	73.13	50.82
35	17.21	38.37	53.13	37.25	69.58	95.3	19.99	69.86	26.25	76.5	54
40	16.81	42.11	51.25	38.63	63.96	79.8	20.09	69.57	22.08	75.75	55.18
45	18.04	39.63	55.88	38.75	71.08	73.1	20.17	69.64	23.92	70.5	51.09
50	17.71	43.76	45.75	36	65	88.8	20.09	60.93	25.42	60.88	43.73
55	16.57	36.15	62.38	33.25	62.71	87.2	19.97	71.14	24.75	69.75	37.27
60	17.44	38.54	56.88	37.88	63.71	91.4	19.83	60.79	25.83	65	53.27
65	14.61	41.15	52.25	46.25	64	80.9	19.75	64.57	26.75	68.5	45.18
70	15.34	39.89	48.13	46	66.58	85.7	19.84	69.57	29.08	66.88	49.73
75	16.66	42.32	59.38	49.38	65.04	75.8	19.84	61.92	21.41	73.25	46.45
80	16.68	42.35	51.75	36.13	67.5	81.3	19.9	68.14	25.92	76.38	54.09
85	16.16	42.91	56.75	41.88	55.5	90.2	20.03	78.07	25	74.5	65
90	16.45	40.78	49.25	41.25	59.58	76.4	19.97	65.43	28.25	65.25	56.09
95	17.16	38.98	47.63	50.5	62.08	85.2	19.91	65.86	20.17	80.13	64.82
100	17.54	41.04	53.25	47.5	57.5	84.1	19.82	59.28	24.42	74.38	64.09

Table B.4D. Continued.

Time (sec)	Cell 12	Cell 13
0	20.57	35.2
5	20.54	37
10	20.49	29.4
15	20.47	35.6
20	20.19	38
25	20.16	29
30	20.05	39.6
35	19.99	27.3
40	20.09	28.6
45	20.17	32.8
50	20.09	40.9
55	19.97	27.4
60	19.83	36.4
65	19.75	27.6
70	19.84	33.2
75	19.85	38
80	19.9	36.9
85	20.03	38.9
90	19.97	43
95	19.91	35.4
100	19.82	45.8

Table B.4D. Continued.

Time (sec)	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21	Cell 22	Cell 23	Cell 24
0	31.69	51.83	30.54	13.13	30.92	31.03	30.93	33.68	25.94	38.32	31.50
3	31.51	48.67	27.59	13.54	32.87	28.97	31.13	32.07	23.22	36.20	33.83
6	34.49	52.42	27.74	10.13	30.74	30.40	27.20	32.46	20.22	32.76	29.67
9	32.54	50.17	28.43	9.67	32.85	29.90	27.67	31.50	21.33	35.04	33.67
12	34.86	45.50	27.39	7.88	30.00	29.80	27.47	33.79	23.89	34.92	39.17
15	33.80	49.50	26.96	10.88	31.51	26.83	28.73	30.07	20.83	34.64	25.33
18	31.17	49.75	28.65	8.21	28.87	26.33	26.13	34.36	19.81	34.62	35.00
21	34.00	45.83	28.46	9.17	29.85	33.83	27.87	32.36	19.78	33.92	29.33
24	35.49	39.83	25.83	9.42	31.79	27.63	28.07	32.82	19.17	35.76	28.83
27	36.17	41.67	29.02	8.25	31.69	27.20	25.77	33.75	19.11	34.55	32.50
30	32.77	44.50	27.39	9.33	34.82	27.30	28.57	32.25	20.92	34.84	27.83
33	33.17	44.50	27.26	9.04	30.15	26.20	27.77	31.96	20.42	34.86	28.00
36	32.71	37.33	29.67	9.42	32.69	28.67	26.53	30.86	19.89	35.09	30.83
39	31.66	42.00	26.91	9.67	32.18	26.63	29.03	32.82	19.06	35.88	40.50
42	31.83	28.75	28.50	10.21	31.03	24.13	30.23	33.46	17.47	34.76	30.50
45	37.23	36.83	29.26	7.71	32.03	27.87	28.87	34.25	17.94	35.01	32.33
48	30.14	40.08	27.33	8.63	32.77	27.77	30.40	32.71	20.36	36.54	33.67
51	28.06	34.83	25.37	9.25	29.62	26.87	30.00	33.96	14.22	31.45	33.50
54	29.00	32.08	28.15	8.63	28.62	22.60	26.67	32.46	17.56	32.55	33.83
57	32.77	31.92	30.89	7.46	31.05	28.33	28.87	35.43	15.72	32.43	35.50
60	29.51	40.33	26.48	7.96	28.85	26.37	26.60	29.14	15.72	31.51	30.17
63	31.57	30.00	26.37	8.67	25.82	27.30	27.23	35.50	14.25	31.26	33.00
66	33.40	25.92	26.70	8.54	26.15	25.27	28.87	33.54	17.69	32.93	27.50
69	33.89	27.83	26.20	9.54	26.59	24.00	31.30	28.11	15.39	32.89	30.17
72	31.37	31.58	26.02	8.04	27.64	24.40	24.97	36.82	15.56	30.23	23.67
75	33.03	28.92	28.11	8.92	24.18	26.80	26.63	34.50	14.25	32.84	33.67
78	38.49	25.58	30.07	8.71	24.85	25.53	29.73	35.64	16.06	30.19	32.67
81	31.77	27.08	27.91	7.25	25.69	21.17	27.43	33.21	13.78	29.36	26.33
84	31.97	23.58	26.37	7.29	24.21	22.73	24.37	31.68	14.17	29.86	23.83
87	31.86	24.83	28.13	8.08	23.00	23.57	29.67	33.04	15.42	29.70	31.67
90	31.06	23.33	26.74	7.25	21.46	21.77	32.03	32.75	15.39	29.77	27.67
93	31.77	21.83	25.30	7.75	22.54	24.67	31.70	31.54	16.94	29.45	33.00
96	14.14	16.67	28.93	7.42	17.26	7.33	9.87	5.64	6.44	25.54	5.83
99	17.23	17.33	5.59	7.67	14.00	9.27	7.17	7.25	24.67	18.81	11.67
102	16.51	6.75	6.37	31.92	6.41	9.63	7.23	7.32	13.19	21.00	6.83
105	11.00	6.33	5.76	29.71	10.00	21.60	13.53	6.57	13.00	12.20	8.50
108	20.86	6.17	6.07	33.42	9.49	22.70	12.07	6.57	16.28	16.04	6.33
111	25.54	7.67	6.09	26.08	9.33	19.33	13.07	6.07	11.67	18.54	5.67
114	22.86	6.08	5.46	25.08	11.08	13.93	11.07	5.82	11.94	16.80	7.67
117	25.97	7.58	6.63	25.79	9.23	10.07	12.50	5.75	9.89	14.61	5.17
120	26.69	5.25	5.91	20.42	9.08	7.40	10.67	5.43	9.92	13.04	7.00
123	24.34	6.67	6.67	19.13	9.67	7.73	10.60	6.75	12.67	11.91	7.83
126	23.69	6.17	7.02	14.00	7.90	7.77	10.97	6.14	13.06	9.58	5.17
129	24.20	6.25	6.00	11.79	8.08	6.90	9.57	6.64	13.39	10.05	5.17
132	26.51	10.00	5.67	10.42	7.64	8.27	9.40	6.54	14.44	10.24	9.17
135	21.91	5.33	6.20	8.29	6.97	8.20	9.47	6.46	11.31	8.54	6.33

Table B.4D. Continued.

Time (sec)	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21	Cell 22	Cell 23	Cell 24
138	19.80	6.50	6.24	9.00	8.69	7.93	9.50	6.18	13.97	8.50	6.67
141	22.17	7.50	5.76	8.71	8.49	8.50	10.67	5.82	13.81	8.72	6.50
144	19.51	8.00	6.37	8.38	8.31	7.37	8.90	6.68	14.50	8.49	6.00
147	18.11	6.33	6.15	7.83	8.28	7.33	10.80	5.68	12.78	8.27	6.83
150	21.09	6.08	5.70	8.25	7.97	6.50	9.07	6.11	15.03	8.61	7.00
153	22.29	6.83	6.20	8.92	8.74	8.37	10.73	6.57	14.53	8.64	7.00
156	18.57	7.50	6.67	7.67	8.56	8.47	9.60	6.54	13.25	7.97	9.17
159	17.80	5.92	5.57	7.13	8.44	7.23	9.37	6.71	13.39	7.45	8.00
162	18.11	8.92	5.30	7.83	9.08	7.00	10.30	5.86	14.00	7.54	9.50
165	18.69	6.08	6.00	7.58	8.36	7.03	11.07	7.57	14.83	8.05	7.17
168	19.49	7.75	5.98	6.67	8.62	7.10	11.07	6.54	11.28	8.30	9.33
171	17.57	7.92	6.35	8.00	8.79	8.50	8.83	5.25	12.17	7.62	9.50
174	18.14	8.75	5.57	7.42	9.56	7.27	10.40	6.36	14.19	7.47	8.17
177	16.89	7.50	6.00	8.88	8.28	5.97	11.97	5.75	13.22	7.18	9.50
180	16.71	7.58	5.54	7.67	8.87	6.83	10.27	5.93	12.75	8.01	8.67
183	18.71	8.42	6.04	7.25	8.85	7.87	9.87	6.29	14.14	7.91	9.33
186	18.09	11.33	6.33	8.71	8.54	6.37	10.53	5.11	12.94	7.97	8.33
189	18.89	9.92	6.11	6.92	7.87	7.47	9.83	6.14	13.81	7.57	9.50
192	15.63	8.33	6.20	6.38	9.00	7.70	10.97	6.54	12.42	7.68	11.50
195	15.03	7.75	5.76	6.46	8.74	7.67	9.57	5.64	14.56	8.50	11.17
198	14.66	9.92	6.02	6.96	8.03	7.83	9.83	6.68	13.72	7.95	8.00
201	17.97	9.17	6.13	6.67	8.13	6.67	10.60	6.43	13.25	6.80	10.67
204	17.09	10.42	5.61	5.83	9.54	7.27	9.60	5.96	14.97	7.69	8.17
207	16.49	9.58	5.74	7.13	8.54	6.93	10.90	6.14	13.53	8.00	9.17
210	15.69	10.33	6.15	8.08	8.51	6.63	8.97	6.75	12.94	7.30	9.17
213	16.69	8.00	6.35	7.04	8.67	7.00	11.53	6.14	15.42	7.65	9.33
216	16.29	8.58	6.28	7.33	9.33	6.97	10.17	6.04	11.75	7.46	8.67
219	15.17	7.83	5.24	6.58	7.79	7.20	10.90	5.79	13.42	7.99	7.50
222	13.97	9.50	5.80	6.25	8.64	7.30	12.10	5.29	11.47	7.39	8.67
225	14.74	8.58	6.24	7.75	9.26	7.30	10.90	5.57	13.47	8.14	8.00
228	15.74	11.58	6.35	7.00	7.62	7.03	10.67	5.89	12.97	7.39	8.83
231	13.43	8.00	5.61	7.63	7.28	7.57	10.80	6.54	13.78	7.47	9.50
234	13.03	7.92	5.46	5.88	7.85	6.53	11.70	7.18	15.17	8.05	13.83
237	12.91	10.17	6.33	6.75	8.36	6.17	9.77	5.61	13.83	7.72	12.83
240	13.11	9.33	5.80	6.71	9.36	7.57	9.67	5.75	12.83	7.65	8.33
243	12.80	7.67	5.57	6.13	10.28	6.37	12.47	6.21	12.56	7.77	9.00
246	13.69	9.00	5.52	6.88	10.00	6.63	11.73	5.50	13.17	7.65	6.17
249	14.57	11.50	6.02	6.63	9.13	7.27	10.73	5.57	12.42	7.55	8.17
252	13.49	10.00	6.13	6.71	8.46	7.03	10.97	6.43	12.17	7.32	7.83
255	12.03	8.42	5.85	6.75	8.85	6.57	12.33	6.32	12.89	7.80	11.50
258	11.37	7.42	6.17	5.21	9.41	6.73	12.73	5.89	13.31	7.81	8.67
261	11.23	9.75	5.52	6.08	9.59	7.20	11.33	5.57	13.03	8.00	9.50
264	12.54	9.92	6.00	7.13	8.49	6.83	13.30	5.61	11.78	7.55	11.67
267	11.69	11.92	5.39	6.71	9.26	7.43	11.67	5.79	12.92	7.45	9.50
270	13.83	8.00	5.61	7.00	9.74	6.13	11.20	7.25	12.47	8.32	9.33

Table B.4D. Continued.

Time (sec)	Cell 25	Cell 26	Cell 27	Cell 28	Cell 29	Cell 30	Cell 31	Cell 32	Cell 33	Cell 34	Cell 35
0	26.79	34.64	25.30	27.21	29.00	28.08	29.45	33.20	35.90	45.38	29.43
3	27.49	35.41	24.74	28.04	25.94	30.43	27.86	30.83	38.54	46.15	27.03
6	27.59	35.61	24.06	30.51	29.91	28.64	28.41	32.27	34.58	41.85	27.77
9	29.10	40.02	21.54	28.53	32.03	27.38	30.50	31.44	35.71	45.38	27.73
12	29.15	36.32	23.10	28.87	27.53	30.12	27.64	33.86	36.52	46.23	28.00
15	29.31	37.84	23.49	25.62	29.47	28.36	26.55	36.23	38.42	40.85	29.97
18	34.79	40.05	24.86	28.22	30.06	28.09	28.14	33.16	36.60	42.46	28.33
21	35.18	39.52	23.53	25.69	26.84	26.28	26.77	33.66	38.35	40.38	25.27
24	36.08	33.91	23.43	26.06	32.59	29.78	28.73	34.16	35.85	52.85	24.30
27	34.85	34.25	23.99	28.10	28.97	27.14	33.18	33.55	36.90	65.92	25.53
30	36.31	34.23	24.45	28.26	31.59	27.14	26.82	39.25	37.71	66.15	25.83
33	34.97	34.25	23.60	26.85	33.72	26.22	26.64	35.46	37.65	58.38	25.57
36	32.54	38.48	23.96	27.04	26.78	29.75	30.14	34.75	33.79	60.54	26.23
39	34.49	38.02	23.36	27.99	31.16	27.64	27.18	33.91	34.02	45.54	25.80
42	35.38	35.70	23.53	27.82	31.78	27.01	30.00	35.98	39.92	39.38	28.30
45	37.69	38.39	23.16	31.38	28.78	24.67	30.36	35.91	34.06	58.38	25.67
48	38.46	35.89	24.50	26.41	31.75	27.88	27.95	34.96	36.83	59.46	27.23
51	36.72	36.32	21.06	26.54	32.44	25.92	29.05	38.20	39.17	57.62	26.57
54	34.05	38.32	22.38	29.66	28.13	25.38	27.68	35.25	36.65	57.08	24.83
57	40.13	35.45	24.11	27.16	35.00	24.12	28.73	37.32	33.17	54.23	22.73
60	35.21	35.16	23.85	27.28	38.88	24.04	26.86	35.84	33.13	52.38	22.43
63	36.85	40.52	25.38	27.03	36.34	27.41	26.41	35.40	37.17	41.62	22.57
66	36.54	33.45	23.65	26.50	31.31	27.26	29.73	32.98	36.25	41.77	25.20
69	35.51	36.09	21.41	30.35	32.13	28.78	30.82	37.43	37.38	41.69	26.37
72	35.69	35.14	21.05	31.78	33.53	22.96	32.95	34.88	39.48	48.69	24.60
75	37.87	36.30	23.38	30.01	34.00	23.63	28.45	35.58	39.08	44.08	24.63
78	35.41	36.68	22.61	29.65	34.97	25.39	22.68	36.11	35.83	49.08	20.23
81	36.28	33.68	21.76	29.26	34.16	25.36	27.55	34.45	37.13	43.62	24.77
84	36.38	37.82	22.40	29.68	32.91	24.53	25.68	36.56	37.85	43.62	21.83
87	37.85	37.02	21.51	31.12	28.25	25.09	25.18	32.25	37.08	36.92	22.77
90	38.21	37.95	23.64	30.68	33.19	24.79	24.45	33.98	37.17	44.23	22.20
93	40.18	35.05	22.03	27.78	33.84	25.46	21.50	36.24	37.52	47.31	23.70
96	39.97	38.55	21.75	33.31	36.00	23.99	20.05	33.43	42.23	41.15	23.90
99	37.64	35.55	23.10	31.26	35.75	24.79	29.09	31.16	38.27	41.23	22.73
102	36.72	38.73	21.99	33.85	31.09	25.28	27.45	35.88	37.00	57.46	23.27
105	38.13	35.57	23.31	31.22	35.16	22.49	31.82	33.50	37.58	48.00	22.37
108	37.26	36.73	21.54	31.43	35.19	22.46	28.59	33.59	34.90	6.38	20.63
111	37.21	42.80	24.83	31.56	35.28	23.78	32.91	32.61	40.42	7.62	21.17
114	34.49	35.84	24.41	36.40	43.28	22.16	29.91	32.22	41.10	8.54	24.67
117	34.49	35.84	24.41	36.40	43.28	22.16	29.91	32.22	41.10	8.54	24.67
120	34.87	36.00	28.15	41.78	54.00	25.07	28.91	31.78	47.79	9.00	20.53
123	35.59	34.48	30.69	41.78	46.97	27.72	36.59	31.67	52.69	6.00	21.97
126	37.82	35.68	35.61	43.62	60.13	26.28	38.05	29.43	51.40	7.00	21.17
129	28.74	31.14	38.28	44.49	69.66	28.39	40.27	29.21	54.29	5.31	22.87
132	34.67	32.30	42.25	46.60	70.88	28.12	39.68	28.44	59.69	6.15	25.03
135	26.64	27.57	49.21	46.69	71.28	28.57	37.09	29.20	60.04	5.77	22.30

Table B.4D. Continued.

Time (sec)	Cell 25	Cell 26	Cell 27	Cell 28	Cell 29	Cell 30	Cell 31	Cell 32	Cell 33	Cell 34	Cell 35
138	28.64	27.91	51.66	48.59	67.56	31.25	41.95	29.71	60.15	7.08	21.37
141	26.49	26.07	49.75	53.21	72.13	31.76	35.73	29.54	59.48	6.08	23.67
144	27.59	26.02	51.58	55.09	66.47	30.42	38.41	28.29	49.77	7.85	22.80
147	24.72	29.52	50.56	52.60	65.88	29.50	37.59	26.83	60.02	5.92	22.07
150	26.38	24.55	56.26	50.57	64.09	33.61	34.77	27.35	53.92	7.15	26.07
153	24.72	25.57	54.58	57.15	70.19	29.22	40.59	26.52	57.40	6.46	23.77
156	24.49	27.61	53.24	51.91	69.34	31.42	36.09	27.72	55.85	8.08	25.77
159	23.95	25.70	53.24	56.03	65.13	28.62	38.32	26.02	52.31	6.69	20.93
162	27.05	30.36	53.45	57.93	67.03	31.50	37.05	24.95	52.79	7.08	22.13
165	23.77	25.70	54.05	51.34	69.31	30.07	39.23	27.15	50.60	5.92	22.47
168	25.38	28.98	53.73	55.32	67.91	31.61	39.86	25.70	47.94	5.15	23.90
171	29.56	27.45	52.98	54.24	62.44	29.29	34.18	25.94	49.00	5.92	28.63
174	27.00	26.39	50.40	52.74	64.88	28.58	42.27	24.42	50.73	6.85	22.57
177	25.74	25.16	53.11	53.74	66.41	28.53	46.55	25.73	50.10	8.38	23.40
180	24.10	26.39	50.81	52.10	61.78	27.83	46.05	25.53	46.52	6.38	23.93
183	24.79	24.41	49.55	51.85	61.34	28.86	40.59	25.41	50.21	5.15	24.90
186	28.15	26.09	50.63	54.21	63.72	29.25	36.41	23.60	50.35	7.38	22.90
189	27.26	27.48	49.26	51.81	64.69	29.28	37.23	24.73	48.40	5.85	22.83
192	28.79	23.89	48.83	46.25	66.06	28.08	40.50	24.48	48.12	6.46	23.53
195	27.23	30.05	46.46	50.51	70.06	27.62	37.18	24.98	49.17	5.77	20.30
198	24.77	25.75	46.51	49.71	69.22	27.58	39.59	23.83	47.58	6.85	19.63
201	25.21	26.07	43.61	48.69	66.03	28.76	37.73	24.13	48.08	6.31	23.03
204	29.69	29.25	44.63	47.47	61.75	25.46	40.05	24.85	46.56	6.92	18.70
207	29.00	26.39	47.01	46.57	57.69	26.87	32.95	25.65	46.23	7.92	21.00
210	26.00	27.95	44.50	46.38	55.50	25.01	32.50	22.53	44.13	6.77	22.30
213	30.00	30.11	42.94	46.47	56.25	28.18	28.09	23.83	45.52	6.08	21.33
216	29.41	26.66	39.79	44.12	47.88	26.79	37.05	24.08	44.83	5.69	21.13
219	30.64	29.98	43.56	44.10	56.19	25.74	34.23	22.80	50.54	6.77	20.77
222	26.56	27.16	43.08	41.65	51.19	25.38	30.64	23.43	43.56	7.00	26.10
225	26.26	28.09	41.93	44.04	52.53	23.38	40.09	23.20	46.00	5.38	21.43
228	28.79	28.48	42.16	41.68	46.34	25.93	31.41	24.00	42.08	6.46	19.67
231	28.49	28.82	36.96	37.51	47.94	26.37	32.14	23.98	46.92	5.54	23.50
234	26.85	31.32	42.39	41.85	46.94	26.76	39.23	21.03	42.46	5.85	24.43
237	24.33	27.93	39.14	39.46	46.56	26.53	30.73	22.61	45.77	5.85	23.50
240	24.54	27.00	41.29	39.90	46.41	25.42	35.45	23.35	47.13	5.85	22.63
243	29.13	33.43	38.55	41.18	50.19	24.59	37.36	24.03	45.96	6.31	25.57
246	25.28	25.61	40.93	42.38	52.22	24.58	35.36	23.66	40.71	7.31	25.73
249	28.18	30.84	36.39	40.69	53.94	23.92	36.55	22.41	45.90	7.38	28.40
252	28.15	32.86	41.18	39.90	47.38	24.29	36.23	21.74	44.12	6.38	29.17
255	25.77	28.32	38.41	37.22	46.81	24.75	33.36	23.52	41.19	5.92	30.27
258	24.23	30.36	39.25	37.96	43.78	21.51	34.73	21.84	42.63	6.38	25.87
261	25.79	31.14	37.35	36.75	42.47	22.67	30.86	22.63	37.96	5.15	23.47
264	26.15	29.30	40.04	36.90	44.09	23.82	33.00	22.07	39.58	5.69	26.83
267	24.90	31.61	37.16	39.59	43.84	23.83	34.68	21.40	42.46	7.69	25.10

Table B.4D. Continued.

Time (sec)	Cell 36	Cell 37	Cell 38	Cell 39	Cell 40	Cell 41	Cell 42	Cell 43	Cell 44	Cell 45	Cell 46
0	12.23	101.04	74.02	79.80	103.99	103.94	23.39	31.47	81.32	208.98	65.69
3	12.22	99.75	73.45	78.93	101.70	103.65	22.63	31.34	81.66	209.38	64.36
6	12.23	99.95	74.81	78.00	101.77	102.82	22.56	31.32	81.13	206.24	64.46
9	12.21	100.16	74.76	78.40	102.66	102.74	23.20	31.23	80.42	204.39	64.93
12	12.23	101.27	75.78	78.45	104.39	102.70	22.57	30.90	80.23	206.46	63.46
15	12.27	99.59	74.80	78.00	103.00	102.01	23.10	31.06	80.69	204.21	63.98
18	12.24	99.09	74.18	77.94	102.00	101.94	22.20	30.76	80.18	206.47	61.83
21	12.27	97.16	72.91	76.43	102.31	101.99	22.53	31.20	79.90	204.57	62.72
24	12.24	97.16	72.91	76.43	102.31	101.99	22.53	31.20	79.90	204.57	62.72
27	12.25	93.03	71.79	75.68	98.65	101.47	22.52	30.77	79.45	204.68	59.62
30	12.25	91.94	70.38	74.90	98.07	100.50	22.28	31.08	78.71	204.18	59.82
33	12.25	90.85	71.55	74.56	97.17	100.34	22.45	30.17	78.74	205.10	60.69
36	12.22	89.07	70.61	73.84	95.23	100.30	22.15	29.84	78.05	203.61	59.01
39	12.21	89.75	70.11	73.15	93.78	99.17	21.90	29.66	78.88	205.36	58.38
42	12.20	87.09	70.04	72.56	92.31	98.90	21.97	29.93	78.29	204.12	57.83
45	12.21	86.88	69.68	72.71	92.13	99.41	22.66	30.37	77.88	201.79	57.97
48	12.20	86.39	68.29	73.16	91.25	98.36	22.54	30.05	75.67	200.38	58.88
51	12.17	87.88	69.59	72.89	93.34	98.36	22.33	30.07	77.59	200.96	57.63
54	12.17	87.42	69.28	72.54	93.26	98.34	22.50	30.53	78.25	202.42	56.98
57	12.16	84.85	69.32	72.23	90.94	97.59	22.12	30.05	78.38	200.47	57.18
60	12.17	89.75	67.61	74.36	91.42	95.74	21.04	29.59	71.72	156.42	43.56
63	12.17	43.29	19.22	29.30	13.30	48.64	24.52	16.20	22.94	14.50	14.90
66	12.16	16.53	35.06	27.96	14.21	27.01	12.80	18.69	14.30	14.66	23.55
69	12.16	14.46	14.53	16.54	13.77	14.39	68.70	17.57	16.38	14.56	15.57
72	12.13	28.39	16.58	15.94	13.25	13.74	18.65	112.00	14.08	16.79	34.65
75	12.14	15.68	15.55	15.17	13.99	47.04	13.87	12.76	14.23	15.80	15.08
78	12.13	34.42	122.96	21.50	62.42	14.68	13.92	13.47	14.77	15.49	15.65
81	12.13	57.55	16.42	16.18	29.07	14.13	13.70	13.08	13.98	32.65	16.12
84	12.11	15.73	15.74	18.29	13.89	14.56	13.97	13.07	14.13	16.46	16.26
87	12.11	15.81	29.35	18.33	13.51	14.10	14.05	13.19	14.33	15.82	15.67
90	12.09	18.53	21.02	15.99	13.78	14.36	14.09	12.83	14.90	16.24	15.55
93	12.20	20.11	17.13	16.02	13.85	14.38	31.04	12.58	24.61	15.60	15.69
96	12.18	20.32	17.09	16.21	14.01	14.53	78.86	13.21	24.14	16.09	15.95
99	12.17	20.76	16.56	16.13	13.90	14.62	83.86	13.50	23.41	15.87	16.47
102	12.19	18.39	16.12	16.44	13.68	14.91	53.38	13.42	22.78	15.76	15.99
105	12.17	16.62	16.05	16.18	13.88	14.91	25.90	13.33	22.88	15.51	16.18
108	12.11	16.88	15.99	16.28	14.08	14.74	19.20	13.47	22.56	16.17	15.94
111	12.13	16.86	16.64	16.35	13.86	14.87	15.41	13.31	22.82	16.19	15.68
114	12.14	16.60	16.33	16.37	13.67	14.73	14.88	13.58	22.64	15.85	15.61
117	12.14	16.88	16.26	16.10	13.85	14.75	14.60	13.26	23.29	15.56	16.17
120	12.28	16.59	16.74	16.94	14.09	14.80	14.08	13.08	22.82	15.03	16.56
123	12.43	16.51	16.29	16.57	13.85	15.28	14.10	13.54	22.25	15.75	15.75
126	12.49										
129	12.54										
132	12.60										
135	12.61										

Table B.4D. Continued.

Time (sec)	Cell 36
138	12.60
141	12.53
144	12.47
147	12.42
150	12.37
153	12.39
156	12.38
159	12.34
162	12.33
165	12.32
168	12.21
171	12.22
174	12.21
177	12.20
180	12.15
183	12.15
186	12.14
189	12.09
192	12.10
195	12.08
198	12.02
201	11.99
204	11.89
207	11.81
210	11.79
213	11.79
216	11.79
219	11.74
222	11.71
225	11.67
228	11.59
231	11.58
234	11.59
237	11.50
240	11.48
243	11.53
246	11.52
249	11.50
252	11.47
255	11.40
258	11.34
261	11.31
264	11.30
267	11.23

Table B.4D. Continued.

Time (sec)	Cell 47	Cell 48	Cell 49	Cell 50	Cell 51	Cell 52	Cell 53	Cell 54	Cell 55	Cell 56	Cell 57
0	71.47	184.06	203.42	139.43	73.55	71.66	69.77	55.19	67.49	55.27	40.63
3	69.93	183.23	202.52	141.93	75.06	71.37	69.83	55.49	68.45	55.75	40.27
6	70.87	181.36	201.16	140.52	76.57	72.86	70.06	54.72	69.16	53.71	40.07
9	71.98	178.99	200.16	142.75	79.13	71.93	69.29	55.77	67.51	52.67	40.02
12	70.19	179.37	196.50	142.89	76.71	71.25	69.92	55.02	68.80	52.99	39.87
15	70.50	177.48	189.81	144.78	74.50	71.62	69.23	55.92	66.53	53.21	39.82
18	71.71	177.51	185.76	145.24	76.13	70.38	70.04	54.58	69.39	51.67	39.68
21	71.20	174.09	178.98	144.34	72.00	70.25	70.00	54.58	70.83	52.61	39.55
24	71.20	174.09	178.98	144.34	72.00	70.25	70.00	54.58	70.83	52.61	39.55
27	70.70	170.01	168.68	138.16	67.15	69.00	66.97	53.20	70.99	50.70	39.24
30	71.76	167.77	166.31	137.10	65.28	68.52	67.14	53.48	70.17	51.89	39.57
33	69.45	169.68	160.37	136.72	64.28	66.18	66.52	52.59	70.39	51.06	39.02
36	71.18	167.70	155.39	135.85	61.21	66.26	65.05	52.39	69.29	50.21	38.73
39	70.99	165.46	150.08	131.91	59.31	66.15	62.93	52.12	70.08	50.83	39.18
42	69.82	166.39	144.97	129.10	56.61	65.19	63.24	52.50	69.58	50.16	38.87
45	71.32	162.89	139.61	126.14	55.58	65.03	63.12	51.44	69.53	50.31	38.65
48	71.04	161.81	139.00	128.19	55.50	65.42	62.55	51.31	70.15	51.39	38.26
51	69.82	162.11	135.05	128.06	56.11	65.85	62.44	51.54	69.99	51.07	38.11
54	70.16	161.79	134.09	130.15	55.85	65.46	62.99	51.59	70.05	51.06	38.36
57	72.17	163.45	131.50	126.95	54.02	64.38	62.63	50.69	70.60	51.34	38.18
60	87.16	105.78	128.31	126.34	55.08	68.03	61.00	49.90	73.64	49.93	36.32
63	14.97	15.72	96.92	83.71	31.07	13.97	45.90	13.65	24.63	14.88	14.93
66	49.45	14.44	34.25	48.50	20.23	14.63	16.63	14.61	14.54	113.94	14.51
69	73.88	15.19	14.24	15.29	15.04	14.17	13.74	13.85	62.08	14.70	14.45
72	90.25	105.04	14.93	15.96	15.06	14.88	59.84	14.58	14.22	13.41	44.38
75	14.84	42.55	97.38	16.09	15.09	37.29	14.15	130.57	16.02	66.73	15.25
78	17.26	15.07	15.24	16.06	16.21	15.11	35.27	15.64	14.93	102.12	15.08
81	16.06	15.00	14.94	16.21	15.59	14.77	41.92	14.06	14.11	14.87	15.54
84	16.28	15.70	15.09	15.84	15.95	14.88	69.70	14.36	15.07	14.43	15.55
87	15.88	15.32	15.01	15.87	15.85	15.19	75.37	14.99	14.92	15.02	15.62
90	16.54	15.32	14.68	16.15	15.52	14.81	75.83	14.61	77.60	14.58	15.75
93	16.07	15.94	14.88	17.92	15.33	14.73	77.03	14.59	22.99	15.48	15.63
96	15.94	14.70	19.38	16.04	16.28	15.19	77.36	15.03	20.48	15.86	16.07
99	16.06	15.70	17.54	16.00	15.16	15.02	77.38	15.14	18.55	15.68	15.84
102	15.76	15.23	17.01	16.09	16.21	15.25	76.00	15.04	18.40	15.78	15.99
105	16.64	15.68	16.34	16.25	15.17	17.04	76.14	15.21	19.31	16.07	16.09
108	15.99	15.58	16.47	15.87	16.28	25.95	75.49	15.57	19.29	15.82	15.93
111	16.21	15.52	16.65	16.14	16.62	30.81	77.13	16.16	19.25	16.19	16.33
114	17.12	15.58	15.99	16.33	16.20	33.42	78.01	18.04	18.87	15.78	16.12
117	16.59	15.79	15.97	16.32	15.95	32.21	77.80	21.18	18.87	16.43	16.02
120	15.99	15.70	16.36	16.48	15.57	28.16	75.28	24.77	18.30	15.77	16.05
123	16.51	15.34	15.96	16.21	15.76	23.31	77.99	26.98	18.49	16.10	16.24

Table B.4D. Continued.

Time (sec)	Cell 58	Cell 59	Cell 60	Cell 61	Cell 62	Cell 63	Cell 64	Cell 65	Cell 66	Cell 67	Cell 68
0	41.75	31.04	30.06	51.00	41.69	33.78	140.24	180.11	97.22	200.44	191.45
3	41.53	30.67	29.57	50.13	42.10	33.85	140.26	178.98	95.43	199.97	190.32
6	41.52	30.70	29.20	50.97	41.20	33.03	138.59	179.06	94.98	197.83	188.67
9	39.88	29.61	28.85	49.53	41.80	32.60	134.90	177.97	94.34	196.50	187.52
12	39.09	29.86	28.13	48.92	40.95	32.68	130.87	177.48	92.00	192.68	185.91
15	38.41	29.32	28.40	49.12	41.26	32.00	131.13	177.06	92.11	193.63	186.32
18	38.02	29.38	28.30	47.68	40.62	31.46	130.56	174.21	91.87	192.61	185.25
21	36.64	29.23	27.61	47.94	40.79	31.65	126.91	175.02	91.73	191.39	183.81
24	36.85	28.88	27.92	46.37	40.99	31.32	125.93	173.87	89.75	190.87	183.34
27	35.54	28.59	27.31	45.08	41.14	30.69	126.26	173.20	91.10	189.35	182.46
30	35.66	28.29	26.83	45.27	41.02	30.45	125.18	171.56	90.14	191.20	181.60
33	34.98	28.46	27.04	43.44	40.36	30.41	124.21	172.18	88.70	189.19	180.75
36	33.85	28.01	26.59	43.44	40.74	29.95	117.89	172.14	86.90	188.54	180.29
39	33.82	27.83	26.19	42.55	40.58	29.80	121.36	172.45	90.32	189.75	183.02
42	33.12	27.31	25.94	42.37	40.92	29.62	123.96	170.72	89.85	189.35	181.64
45	32.48	27.28	25.63	41.16	40.60	29.39	119.37	171.70	88.03	187.10	179.52
48	31.72	26.87	25.42	40.14	39.41	29.05	118.21	171.36	86.65	186.95	179.97
51	30.73	27.09	25.24	40.05	40.29	28.66	114.87	170.31	86.60	185.38	178.08
54	30.73	27.12	25.08	38.71	40.00	28.11	118.39	169.89	85.45	184.22	177.41
57	29.95	26.48	24.53	38.02	39.76	28.12	117.27	170.01	86.47	184.57	178.72
60	26.17	24.98	23.66	28.47	37.64	23.09	102.59	165.28	78.39	174.17	169.38
63	20.15	21.10	19.21	24.24	36.46	22.18	58.04	133.06	50.40	131.33	145.88
66	21.63	22.58	20.97	27.74	38.05	23.61	56.41	130.91	48.66	126.74	144.27
69	21.58	23.03	21.32	27.59	37.29	23.83	54.17	135.19	46.04	125.62	144.77
72	23.18	23.17	21.88	29.65	33.08	23.50	61.03	139.64	49.27	135.73	147.00
75	31.16	29.47	26.11	23.90	19.66	30.41	60.12	142.65	50.61	138.56	148.99
78	12.48	12.76	11.96	11.97	13.83	13.41	118.51	167.18	85.29	184.05	177.13
81	13.23	12.18	11.53	12.20	12.64	13.59	114.26	163.67	84.93	181.19	176.41
84	12.38	12.19	11.52	12.66	13.86	13.60	107.12	162.68	82.20	177.63	173.78
87	12.35	11.88	11.59	12.10	13.89	13.59	106.23	159.29	78.64	174.81	170.56
90	12.62	11.94	11.80	11.95	13.58	13.78	104.59	159.08	80.47	175.37	171.07
93	12.31	12.00	11.45	11.96	13.95	13.69	103.72	160.17	80.00	174.62	170.98
96	12.29	11.79	11.56	11.67	13.92	13.56	105.53	158.59	80.27	174.22	170.57
99	12.35	11.94	11.57	11.83	13.73	14.04	105.76	158.36	81.43	175.55	171.21
102	12.37	11.98	11.79	12.11	13.78	13.76	103.45	157.65	78.58	173.69	170.37
105	12.48	11.90	11.59	11.99	13.99	13.77	102.32	157.01	79.77	173.27	169.87
108	12.50	11.86	11.52	11.90	14.14	13.82	101.10	156.57	79.29	173.75	168.54
111	12.33	12.00	11.59	11.84	14.06	13.77	103.40	157.31	79.58	172.47	169.52
114	12.52	12.05	11.70	11.88	14.08	13.94	101.61	154.33	79.00	170.68	169.97
117	12.46	11.84	11.59	12.15	14.21	13.76	103.51	154.06	78.31	170.28	167.94
120	12.41	11.81	11.62	12.10	14.15	13.86	100.80	154.30	77.09	167.90	166.60
123	12.81	11.87	11.57	11.96	14.07	13.93	101.87	154.16	77.92	167.82	167.06
126	12.38	11.92	11.57	11.95	14.02	13.64	101.73	151.62	77.74	169.89	166.80
129	12.70	11.87	11.60	11.62	14.37	13.70	99.77	153.17	78.58	167.72	168.22
132	12.42	11.83	11.47	11.91	14.12	13.52	102.35	152.06	77.67	167.04	165.75
135	12.45	11.89	11.67	11.87	14.12	13.71	101.41	152.76	76.59	167.99	166.72

Table B.4D. Continued.

Time (sec)	Cell 58	Cell 59	Cell 60	Cell 61	Cell 62	Cell 63	Cell 64	Cell 65	Cell 66	Cell 67	Cell 68
138	12.65	11.88	11.55	11.87	13.66	13.62	100.16	152.12	77.65	167.61	167.03
141	12.63	12.01	11.70	11.79	13.85	13.83	100.75	151.03	76.37	165.50	165.91
144	12.75	11.96	11.61	11.77	13.95	13.69	101.19	150.34	77.74	166.03	166.38
147							97.65	149.01	75.79	163.63	164.81

Table B.4D. Continued.

Time (sec)	Cell 69	Cell 70	Cell 71	Cell 72	Cell 73	Cell 74	Cell 75	Cell 76	Cell 77	Cell 78	Cell 79
0	190.06	170.57	118.72	206.87	156.01	61.77	216.99	120.03	83.97	83.58	142.30
3	186.53	168.68	116.89	206.68	155.04	61.70	217.07	120.42	83.24	79.62	138.12
6	186.58	166.67	115.11	202.27	155.85	61.11	213.46	118.64	82.68	74.55	133.69
9	185.12	166.53	113.12	200.39	155.30	61.00	213.57	116.94	81.75	75.66	133.46
12	182.82	162.13	110.10	194.82	154.06	60.18	210.10	116.08	80.86	69.77	126.79
15	183.34	161.11	109.41	193.56	152.60	60.11	212.96	116.85	81.30	68.78	127.10
18	184.11	160.25	107.17	193.95	152.39	59.78	211.57	115.82	80.14	68.08	124.37
21	181.82	159.61	105.69	190.52	152.11	59.87	210.51	116.26	80.19	65.80	122.55
24	180.47	159.25	104.71	188.21	151.78	59.60	209.88	115.26	80.33	63.71	120.90
27	179.56	157.32	103.22	187.37	150.77	59.23	208.84	114.60	79.96	63.86	121.75
30	179.22	156.76	101.65	188.39	151.33	59.10	209.26	114.50	80.26	63.52	119.74
33	177.10	154.92	99.97	181.90	149.78	58.70	206.39	113.44	79.26	59.51	115.97
36	177.01	152.09	99.88	178.59	148.84	58.59	208.45	113.36	79.02	59.51	118.08
39	178.66	155.13	98.88	184.79	150.28	58.75	208.08	114.41	79.63	63.46	119.55
42	177.03	154.05	98.25	185.77	149.81	58.71	208.40	114.93	78.99	61.96	119.00
45	172.31	152.42	96.24	181.39	148.58	58.41	206.58	113.06	78.36	56.81	114.24
48	169.87	150.20	95.12	175.43	147.02	58.20	205.50	113.02	78.00	56.22	111.43
51	165.49	150.26	93.37	173.48	146.20	58.00	205.94	111.80	77.32	54.09	108.99
54	160.92	149.12	93.27	173.49	146.10	57.97	203.81	112.40	78.51	53.67	110.15
57	163.42	149.45	91.62	172.39	146.12	58.06	204.64	111.69	77.78	53.73	110.95
60	160.51	141.10	87.82	170.02	145.08	56.89	189.29	105.77	73.19	35.33	88.15
63	125.75	126.09	69.37	85.57	108.90	54.55	119.23	98.59	70.19	24.15	62.29
66	126.79	125.84	67.13	78.52	103.15	53.85	114.76	98.15	69.81	24.14	61.66
69	128.12	125.04	68.62	77.30	105.12	53.88	109.22	98.37	68.93	23.31	64.44
72	135.19	126.67	70.52	82.98	110.77	54.27	122.76	100.38	69.60	25.15	66.03
75	137.03	126.56	70.03	83.01	114.22	54.07	137.79	100.39	69.32	26.57	68.69
78	176.53	147.38	88.76	171.66	145.34	57.11	204.91	112.12	77.45	53.56	109.03
81	174.20	144.87	87.04	167.64	144.64	56.53	204.05	111.38	76.81	50.67	104.86
84	172.10	144.67	85.05	161.59	141.94	56.37	201.49	110.84	76.63	47.50	102.98
87	168.69	141.23	82.79	149.75	139.70	55.91	198.20	108.90	76.09	43.74	95.34
90	167.08	142.62	82.47	150.47	140.28	55.63	198.31	109.67	75.91	44.14	94.90
93	168.95	141.97	82.32	147.37	139.55	55.56	197.73	110.16	75.84	44.12	96.00
96	169.92	141.43	81.28	150.77	139.34	55.49	198.71	110.15	75.60	45.67	95.89
99	170.12	142.43	81.18	150.99	139.76	55.60	197.97	110.00	76.41	44.55	97.00
102	167.35	140.16	80.34	150.26	138.89	55.05	196.95	109.03	75.53	42.74	94.59
105	166.07	139.68	80.65	145.27	138.39	54.46	195.83	108.40	75.15	44.01	94.51
108	165.67	139.33	79.34	147.39	137.74	54.65	195.97	108.55	75.37	44.10	94.48
111	165.29	139.26	78.78	148.60	138.29	54.50	194.59	108.51	74.68	44.11	94.75
114	164.42	139.87	78.50	148.10	137.82	54.36	194.99	108.49	74.47	43.52	93.11
117	164.51	137.00	78.06	145.68	135.49	54.16	195.91	108.37	74.16	43.69	92.14
120	163.12	137.32	76.68	143.43	136.79	54.21	193.41	107.56	74.06	42.53	91.72
123	162.62	138.88	76.69	144.10	136.15	53.86	194.19	107.53	73.66	42.91	92.77
126	163.16	136.73	76.38	142.60	135.82	53.78	193.29	107.04	73.47	41.99	90.55
129	162.65	135.78	76.62	144.09	135.48	54.16	195.82	107.05	73.88	43.28	91.44
132	162.36	136.01	75.38	143.45	136.02	53.57	191.97	106.44	73.87	43.03	91.59
135	160.50	136.46	74.98	143.28	134.16	53.23	193.12	106.73	73.79	42.00	90.64

Table B.4D. Continued.

Time (sec)	Cell 69	Cell 70	Cell 71	Cell 72	Cell 73	Cell 74	Cell 75	Cell 76	Cell 77	Cell 78	Cell 79
138	160.55	135.59	74.36	142.58	135.85	53.51	190.12	106.37	74.05	42.28	89.83
141	160.74	135.59	74.99	140.69	135.31	53.29	193.35	107.03	73.18	41.29	90.40
144	160.11	136.29	73.86	141.52	134.76	52.63	191.80	106.10	73.45	42.24	90.52
147	157.73	135.12	72.81	138.43	134.02	52.96	191.53	105.95	73.20	41.12	87.70

Table B.4D. Continued.

Time (sec)	Cell 80	Cell 81	Cell 82	Cell 83	Cell 84	Cell 85	Cell 86	Cell 87	Cell 88	Cell 89	Cell 90
0	182.35	145.53	159.67	127.48	60.42	57.90	125.16	182.05	174.67	119.38	154.70
3	182.93	143.95	159.04	127.22	60.08	58.03	124.76	179.43	172.72	116.09	152.21
6	180.88	145.84	157.03	124.11	59.79	57.66	122.80	176.19	171.00	111.95	148.14
9	173.90	146.27	155.09	122.89	59.76	57.03	121.28	173.02	168.45	114.10	145.31
12	165.73	147.86	152.27	119.57	58.88	57.07	121.27	166.81	164.88	105.52	139.44
15	163.71	145.56	152.98	117.24	59.10	56.40	118.78	166.88	167.24	105.59	140.91
18	163.75	144.82	151.06	118.77	58.91	55.82	118.99	166.15	166.20	102.89	137.98
21	160.70	145.82	148.57	117.08	58.32	56.08	119.44	164.85	163.61	100.07	137.29
24	158.13	144.35	146.69	117.28	58.28	56.23	115.54	162.43	162.87	100.50	134.94
27	156.39	146.84	146.55	114.57	58.36	55.61	117.73	162.53	164.01	99.77	136.37
30	156.69	144.89	147.88	115.09	58.01	55.87	118.03	162.90	162.24	100.08	134.35
33	150.17	142.26	144.29	113.18	57.45	54.88	116.01	155.43	159.51	94.17	130.19
36	147.06	143.02	141.77	109.24	57.74	55.68	116.73	150.86	157.50	92.23	127.76
39	157.81	141.72	145.73	113.26	57.87	55.49	117.58	161.50	161.46	97.94	136.24
42	159.43	142.77	145.88	113.92	57.59	55.56	117.84	160.22	161.54	96.77	133.31
45	152.11	141.07	142.45	111.96	57.48	54.78	115.07	153.14	157.63	92.66	127.24
48	147.69	141.94	139.57	109.04	56.98	54.92	115.01	147.36	156.63	87.35	124.22
51	145.06	140.71	137.83	106.26	56.75	54.92	116.29	146.89	155.64	86.28	122.57
54	143.98	142.68	139.74	106.49	57.11	54.54	114.45	144.29	154.31	85.42	120.92
57	143.81	142.75	135.49	107.10	57.14	54.65	114.41	144.71	156.44	85.54	123.12
60	116.17	141.15	133.87	104.71	55.59	53.39	111.65	114.62	145.16	59.69	87.60
63	62.70	127.09	61.98	54.35	51.62	48.74	98.96	87.20	123.96	31.80	51.42
66	61.34	121.20	52.13	47.54	51.20	48.35	101.03	88.48	121.49	30.17	48.71
69	57.46	118.22	50.13	46.62	50.82	48.51	94.79	83.48	122.77	29.32	47.97
72	60.13	121.54	54.54	50.65	51.20	49.58	94.74	81.40	126.79	31.98	51.51
75	60.46	122.52	54.77	50.57	51.80	49.09	94.95	79.98	128.64	33.40	54.15
78	139.53	140.49	138.29	105.88	56.65	54.52	116.82	142.09	155.87	83.15	121.94
81	136.26	140.09	136.75	103.47	55.90	53.76	115.05	138.73	154.68	80.31	116.53
84	128.06	139.98	128.42	100.08	55.71	54.28	112.64	131.95	153.18	75.17	111.37
87	117.11	138.93	119.22	93.28	55.31	53.17	109.73	119.77	148.10	68.82	102.01
90	119.18	138.31	121.67	94.87	55.53	53.52	112.35	120.63	149.06	67.63	102.55
93	118.72	137.21	120.01	93.63	55.23	53.44	111.69	123.68	149.28	66.98	103.11
96	120.50	137.61	121.05	94.11	55.43	53.09	110.85	122.34	149.74	67.49	103.73
99	121.57	136.14	125.47	94.01	55.35	53.22	111.82	125.68	149.44	66.67	103.38
102	121.04	137.26	124.91	94.16	54.88	53.46	110.54	121.06	145.90	65.31	101.47
105	117.66	137.88	121.25	91.26	54.63	52.76	109.76	120.56	148.18	65.29	100.47
108	118.78	134.73	124.09	92.08	54.46	52.73	111.02	122.84	147.07	65.33	101.73
111	119.26	135.29	127.47	90.71	54.72	52.32	110.77	120.62	147.82	66.00	100.99
114	120.24	135.10	122.19	92.24	54.98	52.18	111.58	120.59	146.72	63.76	100.23
117	116.05	134.03	124.97	90.49	54.65	52.42	109.85	118.58	147.04	61.90	98.43
120	114.35	134.28	119.27	89.25	53.73	52.08	109.63	118.11	145.59	62.61	97.38
123	115.66	134.52	123.19	91.69	54.15	52.33	109.36	120.31	145.77	63.48	99.27
126	111.90	135.08	121.48	89.54	54.21	52.08	109.07	116.71	146.35	60.75	97.58
129	115.47	132.86	123.28	88.95	54.08	52.35	109.61	120.58	145.78	63.79	98.13
132	113.52	134.29	122.63	90.46	54.25	52.42	109.03	118.09	144.40	63.02	98.19
135	112.43	132.15	117.93	89.33	54.32	51.93	110.76	119.31	144.84	62.25	97.13

Table B.4D. Continued.

Time (sec)	Cell 80	Cell 81	Cell 82	Cell 83	Cell 84	Cell 85	Cell 86	Cell 87	Cell 88	Cell 89	Cell 90
138	112.25	134.26	121.21	89.87	54.03	52.23	109.35	116.64	144.13	61.60	96.04
141	110.49	131.74	120.08	88.64	54.20	52.04	110.01	118.23	145.49	60.55	96.37
144	109.84	131.23	119.19	90.26	53.68	52.14	109.31	117.57	145.46	60.96	95.00
147	107.43	132.42	118.47	87.81	53.74	51.07	107.14	114.22	143.89	59.67	93.42

Table B.4D. Continued.

Time (sec)	Cell 91	Cell 92									
0	105.38	117.53									
3	105.62	115.92									
6	100.93	116.03									
9	97.17	115.04									
12	89.25	113.25									
15	91.81	113.51									
18	89.98	112.56									
21	90.42	113.23									
24	88.15	111.17									
27	88.65	110.42									
30	85.92	109.92									
33	82.64	108.27									
36	81.13	107.46									
39	88.67	111.09									
42	85.92	108.57									
45	81.93	108.26									
48	78.72	107.54									
51	75.82	105.29									
54	75.96	106.55									
57	76.86	106.77									
60	59.29	101.41									
63	40.24	86.53									
66	40.44	84.24									
69	43.29	84.66									
72	46.26	85.23									
75	48.98	87.48									
78	77.69	105.83									
81	73.59	104.56									
84	68.88	103.59									
87	63.56	101.29									
90	64.73	101.44									
93	63.18	102.66									
96	63.35	101.06									
99	64.91	101.74									
102	62.67	100.81									
105	61.94	99.93									
108	63.76	99.29									
111	61.66	100.84									
114	61.60	99.16									
117	61.09	99.54									
120	59.87	98.90									
123	61.79	98.64									
126	59.33	98.66									
129	60.50	99.01									
132	59.75	98.50									
135	59.69	99.56									

Table B.4D. Continued.

Time (sec)	Cell 91	Cell 92									
138	60.12	99.11									
141	59.46	97.53									
144	59.12	97.79									
147	57.44	98.17									

Table B.5A1. Calcium Dynamics data for differentiating Day 2 SH-SY5Y cells cultured in 2-D monolayer after addition of 5 µM Bay K 8644. Data was used to generate Table 2.

Time (sec)	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5	Cell 6	Cell 7	Cell 8	Cell 9
0	145.55	39.19	38.81	26.62	24.79	20.37	16.65	16.13	18.24
3	147.17	39.01	37.23	26.62	25.08	20.16	16.02	16.37	18.49
6	147.00	38.44	37.32	26.25	24.95	20.25	16.30	16.21	18.20
9	146.90	38.47	37.84	25.98	24.48	20.40	15.95	15.98	18.09
12	143.74	39.15	37.71	26.45	24.81	20.59	16.30	16.19	18.30
15	147.01	37.68	37.14	25.80	23.93	20.59	16.55	16.32	18.07
18	144.70	38.85	37.00	25.59	24.68	19.90	16.45	15.87	17.93
21	144.83	38.97	37.02	25.95	24.29	20.13	16.12	16.07	18.21
24	142.95	39.18	36.80	25.79	24.39	19.59	16.20	16.17	18.16
27	141.32	39.42	37.37	25.73	24.48	20.60	16.15	16.11	18.05
30	143.51	38.27	36.58	25.73	24.43	20.44	16.30	16.08	17.97
33	147.87	37.93	36.27	25.16	24.52	19.75	16.43	15.82	18.13
36	140.83	39.13	36.78	25.96	24.18	19.80	16.23	15.94	18.32
39	140.00	38.34	37.74	25.56	23.85	20.26	16.34	15.93	18.10
42	142.06	38.29	36.78	25.40	24.03	20.33	16.20	16.00	17.87
45	145.44	36.80	34.86	24.77	22.99	19.81	15.89	16.00	17.43
48	146.71	36.32	34.51	25.09	23.00	19.94	15.83	15.69	17.79
51	144.28	36.32	35.14	25.53	23.36	19.57	15.98	15.94	17.66
54	145.44	35.89	34.14	24.72	22.68	20.13	15.85	15.84	17.66
57	144.70	35.25	33.50	24.14	22.90	19.70	15.74	15.86	17.85
60	143.80	34.98	34.12	24.70	23.30	19.49	15.81	15.98	17.79
63	139.43	36.29	35.14	25.29	23.43	19.94	16.00	15.51	17.74
66	133.32	37.20	35.98	25.15	23.27	20.20	16.08	16.16	17.95
69	131.21	38.05	36.64	25.16	23.68	19.79	16.10	16.03	17.71
72	130.91	38.04	36.07	25.44	23.63	19.77	16.03	16.02	17.92
75	130.27	38.16	35.63	25.30	23.45	19.86	16.39	16.09	17.84
78	129.27	37.66	36.10	25.06	23.71	19.86	16.01	16.07	18.00
81	127.41	37.65	35.76	25.67	23.66	19.59	16.06	15.73	18.02
84	128.28	38.03	36.31	25.29	23.56	19.61	16.28	16.01	17.85
87	129.24	37.39	35.35	24.71	23.47	19.85	15.88	16.00	17.97
90	130.63	36.63	34.18	24.95	23.33	20.01	15.84	15.59	17.71
93	128.33	36.84	34.68	25.24	23.63	19.81	16.18	15.73	17.89
96	126.34	36.93	35.06	25.11	23.24	19.67	16.18	15.71	17.96
99	129.43	36.91	34.99	24.55	23.28	19.93	16.15	15.48	17.83
102	127.53	36.95	35.11	25.16	22.79	19.40	15.95	15.49	17.66
105	118.64	37.60	35.83	25.13	23.42	20.03	16.27	15.67	18.11
108	117.83	37.42	36.25	25.17	23.69	19.23	16.54	15.90	18.10
111	116.30	37.61	35.77	25.00	23.02	19.86	16.37	15.87	18.12
114	121.58	37.73	34.55	24.64	23.41	19.85	16.07	15.73	17.52
117	123.91	37.25	34.36	23.93	22.81	19.67	16.34	15.66	17.48
120	124.34	36.70	34.42	24.43	23.12	19.90	16.31	15.63	17.64
123	125.51	34.93	33.00	24.37	22.51	19.55	15.91	15.53	17.63
126	128.23	34.12	32.11	23.15	22.03	19.36	15.68	15.41	17.42
129	125.34	35.07	32.88	23.66	22.40	19.56	15.66	15.83	17.31
132	123.01	35.89	33.62	23.78	22.54	19.68	15.90	15.40	17.48
135	123.23	35.84	32.69	24.47	22.57	19.28	15.93	15.45	17.68

Table B.5A1. Continued.

Time (sec)	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5	Cell 6	Cell 7	Cell 8	Cell 9
138	121.06	36.01	33.52	24.24	22.60	19.47	15.97	15.76	17.40
141	119.82	36.51	34.49	24.39	22.68	19.57	15.75	15.74	17.80
144	116.09	37.25	33.95	24.14	23.04	19.44	16.00	15.86	17.36
147	115.39	37.10	33.75	24.75	22.72	19.26	16.02	16.11	17.32
150	115.85	37.10	33.86	24.23	23.35	19.38	16.09	15.79	17.58
153	115.24	36.37	33.70	24.42	22.53	19.70	15.93	15.61	17.26
156	113.07	35.98	34.08	24.51	22.57	19.62	16.24	15.51	17.84
159	114.66	36.55	33.82	24.43	22.74	19.55	16.17	15.36	17.46
162	111.54	36.61	33.56	24.47	22.69	19.88	15.70	15.51	17.51
165	112.30	36.05	33.18	24.29	22.31	19.45	15.86	15.54	17.50
168	111.03	36.17	33.15	23.97	22.59	19.46	15.90	15.76	17.25
171	112.67	35.26	33.72	23.61	22.39	18.81	16.09	15.20	17.46
174	110.77	35.24	32.84	23.47	22.65	19.31	15.85	15.74	17.40
177	112.96	35.66	32.88	23.75	21.91	19.61	15.97	15.38	17.53
180	112.30	35.74	33.38	23.55	22.47	19.46	15.77	15.52	17.65
183	108.03	35.59	33.27	24.16	21.96	19.43	16.07	15.64	17.17
186	106.57	36.03	32.92	23.92	22.40	19.28	16.04	15.84	17.53
189	108.92	36.52	33.32	23.92	21.75	18.88	16.17	15.51	17.42
192	108.70	35.52	33.30	23.48	22.11	19.25	15.80	15.17	17.30
195	108.12	35.01	32.35	23.19	21.55	19.14	16.23	15.46	17.13
198	107.95	35.30	32.35	23.67	22.14	19.11	15.49	15.54	17.56
201	109.26	34.82	31.44	23.54	21.41	19.17	15.83	15.46	17.35
204	107.01	34.61	32.60	23.23	21.61	19.21	15.76	15.47	17.40
207	105.26	35.61	32.10	23.79	21.94	18.96	15.62	15.55	17.52
210	105.90	35.45	32.80	23.36	21.94	19.05	15.79	15.50	17.10
213	103.21	35.05	32.35	22.96	22.03	19.43	15.97	15.68	17.61

Table B.5A2. Calcium Dynamics data for differentiating Day 2 SH-SY5Y cells cultured in 2-D monolayer after addition of 25 µM Bay K 8644. Data was used to generate Table 2.

Time (sec)	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5	Cell 6	Cell 7	Cell 8	Cell 9	Cell 10	Cell 11
0	34.37	24.05	22.46	27.87	24.10	27.61	24.42	33.34	23.81	21.42	25.30
3	33.29	24.44	21.88	28.45	24.20	27.22	24.45	35.24	24.00	21.75	25.14
6	33.76	24.02	22.19	27.59	23.93	27.18	24.19	34.18	24.13	22.49	24.96
9	33.44	24.25	21.70	27.26	23.86	27.51	24.21	35.24	23.57	22.17	25.32
12	33.38	23.92	21.94	28.21	24.08	27.24	24.33	34.71	23.79	22.21	24.95
15	33.52	23.32	21.75	26.54	24.29	27.22	24.28	33.42	23.81	21.60	25.09
18	33.85	23.80	21.63	26.25	24.18	26.80	24.09	32.51	23.24	21.88	24.89
21	33.42	23.85	21.40	27.46	23.78	26.51	24.22	34.84	23.71	21.36	25.34
24	32.68	23.42	20.99	27.67	23.51	26.93	24.12	35.14	24.20	22.04	24.44
27	33.03	23.95	21.20	26.55	23.77	27.32	23.83	35.35	23.76	21.63	24.92
30	32.17	23.38	21.67	26.95	23.77	26.86	24.06	36.14	23.53	22.44	24.91
33	33.04	23.35	22.11	27.66	23.87	26.41	24.14	34.26	23.46	20.98	25.10
36	32.84	23.59	21.46	28.22	23.24	27.11	24.25	34.55	23.64	21.90	25.12
39	33.45	23.51	21.46	27.21	23.62	26.57	23.70	33.77	23.55	21.83	23.99
42	33.49	23.47	20.95	27.78	22.92	26.47	23.76	34.47	23.40	21.97	24.51
45	32.76	23.29	21.42	28.42	23.59	26.42	23.72	32.75	23.80	21.49	24.89
48	33.51	23.07	21.12	28.75	23.64	26.64	23.93	33.04	23.54	21.36	23.92
51	33.75	23.13	21.49	28.11	24.11	26.32	23.92	32.19	23.21	20.38	24.57
54	33.46	23.26	20.95	27.66	23.62	25.96	23.74	32.18	23.23	21.22	24.80
57	32.48	23.36	20.65	26.12	23.94	26.02	23.74	32.92	23.77	21.77	24.58
60	32.93	23.46	21.15	26.15	23.68	26.40	24.14	32.99	23.62	21.60	24.20
63	32.81	22.72	20.80	26.58	23.58	26.49	23.15	33.44	22.89	21.66	23.97
66	33.77	23.21	21.18	27.08	23.86	26.52	24.15	32.59	23.35	21.29	24.67
69	33.14	23.35	20.72	28.08	23.42	26.89	23.77	31.57	22.98	21.33	24.11
72	33.72	22.97	20.84	27.83	23.63	26.48	23.54	29.55	22.40	21.35	24.26
75	33.46	22.46	20.88	27.24	24.19	26.28	22.97	29.56	22.60	21.25	23.70
78	33.20	22.63	21.01	26.29	23.87	25.51	23.03	30.08	22.95	20.61	23.68
81	32.98	23.09	21.23	27.79	23.98	25.94	23.29	30.36	23.48	21.02	23.84
84	32.40	22.92	20.71	26.79	23.82	25.85	23.52	32.74	23.20	21.12	23.86
87	32.85	22.91	19.97	26.89	23.59	25.83	23.71	32.48	23.05	22.17	23.65
90	31.65	23.27	20.99	26.08	22.98	25.31	23.63	34.85	22.81	20.93	24.17
93	31.35	22.79	20.64	25.59	23.20	26.34	24.01	35.40	22.77	21.46	23.73
96	32.17	22.90	20.40	26.24	22.84	25.94	23.61	34.83	23.05	21.66	23.67
99	31.99	22.75	20.50	27.10	23.10	26.17	24.12	35.31	22.46	21.67	24.10
102	31.47	22.98	20.29	25.90	22.13	26.56	23.58	36.25	22.55	21.89	23.97
105	31.07	22.87	20.28	26.32	22.71	26.17	24.04	34.97	22.27	21.05	23.81
108	31.44	23.08	20.80	26.80	22.30	26.00	23.55	34.73	22.45	21.23	24.63
111	32.14	23.24	20.65	25.45	22.47	25.46	23.79	33.98	22.77	21.04	23.30
114	31.56	22.55	20.19	26.22	22.78	26.04	23.36	33.29	22.22	21.05	24.20
117	32.04	22.88	20.21	25.91	23.13	26.19	23.18	32.90	22.51	20.81	23.76
120	31.87	22.78	20.27	26.47	22.77	25.62	23.67	33.43	22.45	21.64	24.09
123	31.88	22.75	20.11	26.00	23.12	26.03	23.33	32.94	22.45	20.82	23.24
126	31.82	22.27	20.38	26.12	23.01	26.00	23.62	33.24	22.62	21.76	24.04
129	31.75	22.19	19.87	25.10	22.91	25.00	23.54	32.80	22.14	20.61	23.64
132	31.22	22.22	19.88	26.18	23.28	25.56	23.37	32.93	22.57	21.46	23.61
135	30.65	22.58	19.85	25.82	22.28	25.60	23.37	33.87	22.63	20.96	23.45

Table B.5A2. Continued.

Time (sec)	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5	Cell 6	Cell 7	Cell 8	Cell 9	Cell 10	Cell 11
138	31.23	22.52	20.13	24.92	22.21	25.81	22.98	33.59	22.38	21.10	24.14
141	31.83	22.82	19.76	25.54	22.51	25.81	23.53	33.25	22.73	20.92	23.85
144	31.64	22.47	20.05	26.17	22.96	25.56	22.86	32.97	22.37	21.70	23.53
147	31.31	22.78	20.08	26.07	22.60	25.27	23.04	32.36	22.29	21.36	23.41
150	31.71	22.32	19.98	25.92	22.79	25.64	23.04	33.39	22.49	21.37	23.66
153	30.96	22.47	20.18	27.08	22.55	25.05	22.88	33.12	21.93	20.65	23.93
156	31.28	22.85	20.03	25.40	22.56	25.59	22.75	33.25	21.94	20.80	23.36
159	31.59	22.19	20.38	25.65	22.67	24.85	22.68	32.65	22.09	21.37	23.61
162	31.03	22.00	19.71	25.27	22.76	25.38	22.85	33.01	22.72	21.03	23.61
165	30.41	21.98	19.94	25.34	22.19	25.27	23.18	33.59	22.06	21.65	23.70
168	31.43	22.26	19.49	25.41	22.54	24.97	22.96	33.50	21.90	20.61	23.36
171	31.00	22.05	19.70	24.21	22.59	25.31	23.07	33.88	21.87	20.41	22.78
174	30.42	22.06	19.54	25.84	22.65	24.70	22.49	32.98	22.13	20.31	22.67
177	30.83	22.16	19.34	25.92	22.48	25.06	23.07	33.46	22.41	20.77	23.86
180	31.55	21.93	19.84	25.85	22.02	24.90	22.60	33.00	21.58	20.54	23.45
183	31.09	22.40	19.50	25.25	22.40	24.67	22.60	32.29	22.43	20.27	22.75
186	30.86	22.27	19.50	26.15	22.31	24.61	22.77	32.25	22.07	20.78	22.74
189	30.95	22.05	19.32	26.05	22.27	24.75	22.39	31.85	21.77	20.60	22.73
192	30.37	21.97	19.59	26.40	21.88	24.62	22.33	32.59	21.58	20.35	24.30
195	31.03	21.85	19.60	25.55	21.87	24.42	22.67	31.92	21.81	20.29	23.83
198	30.86	21.76	19.45	25.59	22.14	24.40	22.97	33.06	22.43	20.64	23.80
201	31.16	21.99	19.45	26.26	22.18	24.51	22.49	30.88	22.51	20.80	22.71
204	31.39	21.53	19.40	25.80	22.27	24.72	22.31	31.54	22.03	20.90	22.22
207	30.33	21.54	19.03	25.13	21.85	24.88	22.50	31.70	21.75	20.46	22.80
210	30.35	21.57	19.63	25.37	21.78	24.33	22.57	33.07	22.41	20.55	22.57
213	30.61	21.89	19.58	24.59	22.15	24.19	22.57	32.87	22.00	21.26	23.02
216	31.01	21.22	19.32	25.80	22.23	24.47	22.57	31.41	21.61	20.40	22.86
219	30.39	21.73	19.30	24.74	22.13	24.38	22.33	31.94	21.85	20.66	23.02
222	30.97	22.01	19.03	24.97	22.37	24.53	21.97	30.63	21.22	20.70	23.03
225	30.54	21.88	18.91	25.93	21.95	24.68	22.22	30.81	21.79	20.27	22.02
228	30.58	21.48	18.93	24.60	21.93	24.10	22.74	31.89	22.30	21.05	23.05

Table B.5A2. Continued.

Time (sec)	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20
0	21.57	27.25	25.09	18.58	19.62	17.61	17.82	20.98	19.71
3	22.18	26.11	26.45	18.70	19.74	17.78	18.39	21.47	19.70
6	21.52	26.43	26.20	18.56	19.94	16.98	17.37	21.31	19.32
9	21.73	26.86	26.13	19.21	19.27	17.26	17.34	21.88	19.60
12	21.35	26.42	25.48	18.61	19.43	17.56	17.42	21.70	19.68
15	21.98	27.14	24.76	18.93	19.56	17.30	17.07	20.29	19.43
18	21.35	26.84	24.85	18.92	19.64	17.57	16.76	20.52	19.62
21	21.28	25.81	25.70	18.75	19.83	17.23	16.85	20.93	19.29
24	21.59	26.10	27.03	18.65	19.41	16.82	16.68	21.15	19.77
27	21.44	25.96	27.39	18.29	19.11	17.11	16.92	21.18	19.16
30	21.53	25.36	26.38	18.74	19.54	17.15	17.08	20.66	18.88
33	21.52	25.59	26.31	19.08	19.03	17.04	18.10	21.56	18.84
36	21.53	26.16	25.69	18.70	19.37	17.25	17.11	20.92	19.25
39	21.43	26.34	25.44	18.80	19.74	17.50	17.37	20.64	19.15
42	21.12	26.29	25.74	18.93	19.53	17.08	17.05	20.37	18.96
45	21.37	26.72	25.41	18.85	19.91	17.22	16.97	21.11	18.97
48	21.28	26.24	24.93	18.77	19.52	17.30	17.13	20.30	17.96
51	21.13	26.48	24.42	18.36	19.28	17.48	16.95	20.96	19.44
54	21.17	26.39	24.89	18.80	18.80	16.90	17.52	20.57	18.62
57	21.20	25.88	25.18	18.29	18.81	17.21	17.10	20.23	18.46
60	20.87	26.05	25.04	18.52	19.13	17.01	17.69	20.69	18.42
63	21.03	25.89	24.69	18.69	19.36	17.02	16.81	21.05	18.43
66	21.16	26.59	23.65	18.59	19.22	17.08	17.53	20.76	18.50
69	20.88	26.36	23.26	18.79	19.21	17.61	17.10	20.69	18.79
72	20.30	26.72	22.97	18.82	19.18	17.40	17.27	20.56	18.55
75	21.06	26.71	22.86	18.50	19.17	17.49	17.42	19.65	18.78
78	21.45	26.85	22.78	18.57	19.12	17.19	17.47	20.26	18.82
81	20.94	26.88	23.32	17.96	18.80	17.11	17.01	20.35	19.13
84	20.82	25.60	24.34	18.84	18.79	17.38	16.90	20.46	18.34
87	21.32	26.25	24.45	18.34	19.26	17.01	18.34	20.52	18.48
90	20.45	24.41	26.99	19.00	19.57	16.64	17.09	20.88	17.82
93	20.29	24.55	26.52	18.67	19.53	16.29	18.09	21.96	18.02
96	21.05	25.18	25.80	18.44	19.38	17.13	16.70	20.78	17.83
99	20.59	24.35	25.91	18.46	19.15	16.72	16.68	21.20	18.15
102	20.52	24.33	26.65	18.68	19.68	16.57	17.45	20.71	17.55
105	20.67	24.02	25.82	18.49	19.18	16.56	15.78	20.94	17.94
108	20.77	24.53	25.27	18.12	18.80	16.33	16.85	20.81	17.79
111	20.55	24.97	25.77	18.43	19.15	16.58	17.47	21.24	18.39
114	20.74	24.49	24.88	18.41	18.98	16.65	16.57	20.68	17.33
117	20.46	25.33	24.42	18.23	19.09	16.94	16.91	20.47	17.76
120	20.41	25.33	24.15	18.58	18.78	16.57	16.84	19.97	18.13
123	20.49	25.32	24.36	18.03	19.26	16.78	17.26	20.33	18.07
126	20.25	24.84	24.60	18.38	18.68	16.75	16.95	20.92	18.07
129	19.88	25.12	24.05	17.92	19.13	16.56	17.37	21.09	18.09
132	20.19	25.24	24.86	18.50	19.07	16.91	17.44	20.52	18.25
135	20.40	24.45	24.92	18.01	18.88	16.85	17.20	20.64	18.00

Table B.5A2. Continued.

Time (sec)	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20
138	20.38	24.48	24.38	18.64	18.98	16.35	17.28	19.87	18.23
141	20.21	24.87	24.29	18.03	19.10	16.64	17.20	20.49	17.49
144	20.30	24.80	23.87	18.44	18.65	16.71	16.64	20.68	17.47
147	20.20	25.27	24.22	18.45	18.84	16.94	17.02	20.43	18.03
150	20.12	24.64	24.45	18.08	19.11	16.75	15.85	21.16	18.30
153	19.72	24.29	24.14	17.86	18.92	16.53	16.97	19.87	17.57
156	20.04	24.34	23.99	18.17	19.19	16.87	16.45	20.92	17.34
159	20.22	24.20	23.77	18.17	18.41	16.84	17.15	20.53	17.48
162	19.91	24.97	23.94	18.15	18.41	16.89	16.41	20.10	17.91
165	20.56	24.63	24.06	18.46	18.55	16.80	16.82	20.66	17.77
168	19.86	24.44	24.37	17.62	18.44	16.24	15.98	20.33	17.96
171	19.84	24.11	24.57	18.12	18.12	16.28	16.06	20.15	17.77
174	20.26	24.46	24.43	18.04	18.78	16.59	16.79	21.11	17.93
177	19.63	24.27	24.90	18.52	18.66	16.02	16.78	20.21	17.08
180	20.04	24.75	23.43	18.10	18.69	16.73	16.00	19.42	16.92
183	19.66	24.89	23.98	18.52	18.13	16.37	16.76	20.20	17.22
186	20.11	24.70	24.07	18.34	19.12	16.35	16.91	20.20	16.97
189	20.44	24.38	23.08	18.13	18.41	16.44	16.32	20.16	17.34
192	19.58	24.32	24.21	17.97	18.45	16.52	16.57	20.30	17.72
195	20.01	24.82	23.32	17.70	18.31	16.24	16.74	20.14	17.44
198	19.70	24.11	23.67	17.90	18.32	16.38	16.44	20.16	17.28
201	19.76	25.06	23.35	17.85	18.53	16.29	16.66	20.04	17.90
204	20.01	24.16	23.61	17.76	18.66	16.50	17.00	20.45	17.21
207	19.99	23.57	23.61	18.22	18.13	16.23	16.19	20.35	17.38
210	19.45	23.47	24.37	17.90	18.20	16.47	15.93	19.92	17.31
213	19.61	24.62	23.31	18.02	18.60	16.24	16.50	19.59	16.93
216	19.44	24.14	23.79	17.75	18.52	16.85	16.08	19.97	17.17
219	19.35	24.03	23.36	17.60	18.55	16.11	15.59	20.09	17.03
222	19.33	24.00	23.34	17.70	18.98	16.30	16.59	19.70	16.80
225	19.28	24.08	23.82	17.84	17.88	16.27	16.18	20.44	16.77
228	19.75	23.58	23.32	18.34	18.38	16.16	16.79	19.74	16.81

Table B.5B1. Calcium Dynamics data for differentiating Day 8 SH-SY5Y cells cultured in 2-D monolayer after addition of 5 µM Bay K 8644. Data was used to generate Table 2.

Time (sec)	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5	Cell 6	Cell 7	Cell 8	Cell 9	Cell 10	Cell 11
0	49.13	37.15	30.10	32.62	41.49	23.67	49.18	62.36	39.61	44.84	24.93
3	48.36	36.59	30.34	32.58	41.66	23.48	49.03	61.97	40.09	44.05	25.00
6	48.46	35.91	29.17	32.65	41.23	23.45	48.12	61.92	38.55	43.97	24.73
9	48.14	35.91	29.75	31.53	41.59	23.80	47.96	61.15	39.16	43.60	24.92
12	48.29	35.67	29.57	32.15	40.79	23.63	48.61	61.04	39.57	42.82	24.75
15	47.83	35.13	29.35	32.07	40.90	23.25	47.26	60.87	38.63	43.40	24.66
18	48.03	35.00	28.71	31.96	40.05	23.37	47.92	60.74	39.54	44.35	24.79
21	47.49	35.90	29.41	31.00	40.43	23.39	47.47	60.42	39.22	43.05	24.61
24	47.23	35.51	28.48	31.28	41.32	23.76	47.66	59.80	38.78	43.41	24.58
27	46.91	34.99	28.92	31.32	39.75	23.35	46.71	59.88	38.96	43.30	24.66
30	46.12	34.84	28.71	31.69	38.83	23.02	46.70	59.76	37.73	42.21	24.40
33	47.06	35.60	29.27	30.85	39.41	23.21	46.56	59.52	38.26	42.82	24.42
36	46.74	34.17	28.98	30.99	39.75	23.53	46.71	59.13	39.21	42.14	24.40
39	47.13	34.51	28.55	30.55	39.63	22.99	45.97	58.71	38.65	41.57	24.38
42	47.85	33.68	28.52	30.62	39.50	22.90	44.99	59.13	38.00	41.67	24.46
45	47.16	33.08	29.02	30.93	38.21	23.67	45.68	57.47	37.87	41.71	24.09
48	46.16	32.56	28.29	30.03	37.87	23.55	45.27	57.76	37.78	40.97	24.14
51	46.30	32.48	28.42	30.28	38.56	23.31	45.26	57.40	38.46	40.94	24.01
54	47.04	33.55	27.91	30.10	37.97	23.53	45.45	57.03	37.50	41.36	23.94
57	47.43	31.51	27.70	29.53	38.72	23.60	44.73	57.47	37.98	40.91	24.07
60	47.11	32.47	28.01	29.71	38.35	23.72	44.32	56.81	37.97	40.80	24.04
63	45.82	33.41	28.45	29.64	38.36	23.16	45.87	57.47	37.44	41.08	23.87
66	46.78	33.43	27.80	29.96	38.07	22.99	45.33	57.75	37.74	42.39	24.01
69	46.23	33.70	28.69	30.67	38.74	23.30	45.40	57.10	38.30	41.52	23.96
72	46.28	33.18	28.11	30.34	38.49	23.00	45.98	57.00	37.45	41.76	23.88
75	46.66	32.88	27.94	30.12	37.80	23.09	45.20	56.30	37.23	40.72	23.81
78	46.50	32.04	27.80	30.70	37.58	23.38	44.72	56.30	36.61	40.96	23.83
81	46.60	31.06	27.24	29.46	37.19	23.51	44.29	55.83	37.02	40.54	23.85
84	46.02	30.49	27.74	29.31	38.25	23.17	44.55	55.99	36.10	40.81	23.78
87	46.33	30.97	27.23	29.62	37.08	23.40	44.82	56.91	37.14	39.85	23.82
90	45.57	30.93	27.05	29.72	38.13	23.12	43.68	56.39	36.65	40.11	23.76
93	46.27	29.82	27.34	29.67	37.61	23.12	44.67	55.34	35.94	40.38	23.54
96	46.23	30.20	27.41	29.13	37.17	23.19	43.68	55.47	36.29	40.13	23.63
99	46.87	29.18	26.71	29.01	37.35	23.50	44.18	55.27	36.20	40.30	23.62
102	45.97	29.83	26.97	29.17	37.20	23.09	44.07	54.80	36.06	40.46	23.44
105	46.02	29.48	26.54	29.14	36.67	23.38	43.05	55.48	36.51	39.57	23.62
108	45.97	28.95	26.70	28.79	36.70	23.53	43.62	54.98	35.40	40.35	23.59
111	45.53	29.02	26.52	29.33	36.89	23.11	43.43	54.58	35.60	39.76	23.36
114	45.18	29.09	26.70	28.98	36.36	23.08	42.90	54.61	35.30	39.55	23.21
117	45.55	28.56	26.38	28.32	36.61	23.41	43.34	54.45	35.51	38.49	23.18
120	46.30	28.71	26.25	28.85	36.08	23.03	42.82	53.70	35.10	38.91	23.28
123	45.50	29.20	25.98	28.77	35.81	23.03	42.79	54.36	34.31	39.15	23.10
126	45.97	28.38	26.51	28.38	35.44	23.07	41.76	54.32	33.94	37.99	23.11
129	46.11	28.03	26.60	28.77	36.23	23.06	42.57	53.01	34.89	38.73	23.07
132	44.57	28.40	25.89	28.12	35.38	23.15	42.46	52.86	34.01	37.68	22.99
135	45.68	27.68	26.44	29.16	35.91	23.04	41.40	52.77	34.12	39.05	23.17

Table B.5B1. Continued.

Time (sec)	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5	Cell 6	Cell 7	Cell 8	Cell 9	Cell 10	Cell 11
138	44.95	28.54	26.29	28.53	35.50	22.90	41.17	52.94	33.73	38.79	23.23
141	45.18	28.16	25.65	27.59	35.49	23.24	41.63	52.59	33.86	38.68	23.07
144	45.28	28.28	26.10	28.36	35.75	22.79	41.47	52.83	33.59	38.44	23.02
147	45.07	28.28	25.59	28.10	35.78	22.80	41.29	52.65	34.13	38.78	22.96
150	44.60	27.12	26.12	27.82	35.16	22.65	41.55	52.25	33.78	37.78	23.08
153	44.84	27.15	25.76	28.10	34.60	22.71	41.23	52.38	33.59	38.44	22.99
156	44.62	27.28	24.96	27.53	34.79	22.75	40.20	51.59	33.40	37.89	22.84
159	44.40	27.00	25.46	27.43	34.29	22.73	40.16	51.92	32.93	38.15	22.74
162	45.13	27.44	25.22	27.31	34.45	22.70	41.11	51.62	32.37	37.11	22.88
165	43.93	27.27	24.99	27.45	34.11	22.83	39.63	51.63	33.00	37.68	22.75
168	44.64	26.90	25.02	27.78	34.47	22.40	39.88	50.56	32.45	37.45	22.90
171	44.74	27.02	24.82	27.74	33.89	22.49	39.65	51.25	32.70	37.07	22.71
174	45.28	26.97	25.00	27.94	33.77	22.37	40.15	51.23	32.82	37.53	22.49

Table B.5B1. Continued

Time (sec)	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21	Cell 22
0	29.67	28.02	74.24	59.47	25.87	23.37	40.92	29.56	39.25	37.73	29.67
3	29.22	27.56	73.31	59.46	25.61	23.20	41.63	29.32	39.49	39.40	29.22
6	29.87	27.55	72.47	59.21	25.57	23.13	41.80	29.38	38.71	40.67	29.87
9	29.97	27.39	72.01	56.71	24.93	22.95	41.72	29.28	38.07	38.93	29.97
12	29.57	27.56	71.01	57.14	25.17	22.75	40.34	29.49	38.98	38.86	29.57
15	30.36	26.88	70.62	56.07	24.86	22.78	40.76	29.34	38.52	38.89	30.36
18	28.73	27.27	69.88	57.06	24.60	22.31	40.47	28.81	39.25	39.99	28.73
21	29.22	27.20	70.39	56.34	24.99	22.80	41.21	29.17	37.06	39.57	29.22
24	29.27	26.96	69.18	55.82	24.96	22.19	40.93	28.97	37.57	39.75	29.27
27	28.92	26.94	67.70	55.33	25.42	21.82	40.35	28.68	38.48	37.76	28.92
30	28.59	26.57	67.80	55.94	24.81	22.39	39.65	28.61	37.03	37.01	28.59
33	27.99	27.33	67.90	56.71	25.38	22.13	41.10	28.91	38.30	36.43	27.99
36	28.81	26.54	67.22	53.92	24.31	22.02	41.27	28.62	37.53	38.89	28.81
39	29.07	26.48	66.31	54.63	25.51	22.33	40.72	28.64	37.25	39.47	29.07
42	28.94	26.56	66.06	53.55	24.47	21.72	41.01	28.64	35.95	36.70	28.94
45	29.36	26.50	65.20	53.21	24.02	21.75	40.25	28.43	36.53	36.79	29.36
48	29.47	26.40	65.29	55.39	23.02	21.81	40.34	28.23	37.62	38.08	29.47
51	29.56	26.16	64.10	54.70	23.61	22.05	41.48	28.55	36.02	37.24	29.56
54	30.04	25.95	62.81	53.66	23.44	21.37	40.73	28.11	35.51	37.10	30.04
57	29.10	26.05	63.76	53.36	23.34	21.77	40.80	28.08	33.95	38.96	29.10
60	30.10	26.19	62.35	54.53	22.95	21.58	40.63	28.23	37.10	38.04	30.10
63	29.57	25.96	63.94	56.36	23.80	21.50	40.32	28.52	36.42	36.79	29.57
66	29.40	25.62	64.40	55.32	23.25	21.70	39.67	28.16	36.34	37.67	29.40
69	29.04	26.16	63.99	56.24	22.84	21.87	40.08	28.19	36.32	37.44	29.04
72	29.67	26.14	63.23	55.41	23.46	21.56	40.30	27.74	35.64	38.68	29.67
75	29.89	25.97	62.25	54.72	22.60	21.48	40.02	27.71	37.17	36.24	29.89
78	29.91	26.12	61.06	54.82	22.93	21.65	40.67	27.71	34.02	36.84	29.91
81	30.69	25.29	59.97	52.59	24.23	21.11	40.64	27.84	33.21	37.27	30.69
84	30.65	25.98	60.47	52.25	23.34	21.19	41.71	28.03	33.59	39.08	30.65
87	29.97	25.56	59.57	52.74	24.09	21.49	40.48	27.51	35.71	36.73	29.97
90	29.72	25.43	61.47	54.44	22.77	21.00	40.62	28.05	35.84	35.89	29.72
93	29.54	25.42	59.35	53.97	24.36	20.88	40.72	27.67	34.30	38.25	29.54
96	30.08	25.40	59.03	53.44	23.70	21.03	40.77	27.72	34.52	35.72	30.08
99	30.19	25.57	58.90	53.65	23.17	21.27	40.46	27.72	33.51	36.38	30.19
102	29.90	25.60	58.92	53.76	23.07	21.26	40.89	27.51	35.72	37.92	29.90
105	30.07	25.04	57.95	52.55	23.73	20.97	40.60	27.22	34.30	37.38	30.07
108	30.21	25.08	58.12	51.97	23.38	20.92	39.53	27.48	33.37	37.28	30.21
111	29.92	24.94	57.45	51.93	22.41	20.99	40.89	27.79	34.22	36.24	29.92
114	29.18	25.10	57.34	53.25	22.64	21.09	40.84	27.36	34.44	37.60	29.18
117	30.47	25.12	56.12	51.67	23.33	21.26	40.67	27.28	32.62	36.04	30.47
120	30.32	24.83	55.63	51.57	22.56	20.82	40.93	27.33	33.40	36.26	30.32
123	29.70	24.57	56.33	52.09	23.39	20.51	39.52	27.33	32.72	36.37	29.70
126	29.79	25.18	55.53	51.18	23.12	20.69	40.23	27.48	31.98	36.75	29.79
129	29.98	24.81	55.88	51.64	23.71	20.82	40.30	27.07	32.92	34.35	29.98
132	29.92	24.74	54.37	50.81	23.53	20.64	40.88	27.01	32.40	35.93	29.92
135	30.20	24.23	54.59	51.64	22.22	20.39	40.74	26.97	32.31	34.47	30.20

Table B.5B1. Continued.

Time (sec)	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21	Cell 22
138	29.77	24.75	54.75	51.57	22.61	20.37	41.06	26.88	32.25	36.12	29.77
141	29.01	24.20	53.63	50.70	22.65	20.50	40.33	26.96	31.18	36.32	29.01
144	29.35	24.43	54.01	50.87	23.04	20.56	40.16	27.03	33.02	35.16	29.35
147	29.69	24.76	53.34	50.47	22.49	20.48	40.69	26.92	31.65	35.35	29.69
150	29.53	24.06	53.13	49.00	22.28	20.07	40.35	26.54	31.77	34.98	29.53
153	30.89	24.29	52.63	49.41	23.12	20.29	40.98	26.58	31.33	34.90	30.89
156	29.87	24.08	51.84	48.57	23.37	20.00	40.62	26.69	31.23	35.56	29.87
159	31.22	24.01	52.13	48.59	23.77	20.28	40.30	26.59	31.81	33.85	31.22
162	30.40	24.37	51.09	48.57	23.15	19.96	39.96	26.40	30.35	33.75	30.40
165	30.13	24.14	51.02	47.97	23.68	19.80	40.12	26.51	32.09	34.13	30.13
168	29.95	24.13	51.01	47.62	22.50	19.82	40.59	26.39	31.06	35.60	29.95
171	30.14	23.99	51.02	48.04	23.47	20.29	40.29	26.63	29.98	33.26	30.14
174	30.37	24.00	50.58	46.32	22.68	19.96	39.68	26.28	29.34	34.42	30.37

Table B.5B1. Continued.

Time (sec)	Cell 23	Cell 24	Cell 25	Cell 26	Cell 27	Cell 28	Cell 29	Cell 30	Cell 31	Cell 32	Cell 33
0	41.60	25.11	35.19	36.70	33.66	28.84	43.66	48.76	27.95	25.80	30.86
3	40.34	24.64	34.38	36.21	33.62	28.41	43.40	48.42	27.95	25.95	29.82
6	41.47	24.66	35.03	36.70	33.45	28.69	41.98	49.10	28.54	26.04	30.24
9	41.02	24.65	34.12	36.07	34.60	28.81	42.15	48.34	29.04	25.79	29.96
12	40.61	24.53	33.62	36.84	33.19	29.04	42.97	48.14	27.93	25.72	29.33
15	39.84	24.99	33.93	36.48	33.81	28.95	42.18	47.66	27.51	25.15	28.63
18	40.46	24.72	32.78	36.33	32.86	29.43	41.39	47.45	27.73	25.43	28.83
21	39.34	24.49	33.00	36.72	32.95	28.58	42.62	47.03	27.35	24.79	28.58
24	39.29	24.81	33.70	36.80	33.24	28.39	42.02	46.90	27.97	25.10	27.91
27	40.19	24.64	33.02	37.62	32.76	28.38	41.80	47.89	28.11	25.21	28.22
30	39.61	24.45	33.42	35.69	33.26	28.81	41.59	47.54	28.06	25.28	28.29
33	39.08	24.41	33.81	36.14	32.60	29.07	41.91	47.11	27.68	24.88	28.25
36	38.89	24.07	33.58	35.78	32.51	28.82	41.91	46.22	27.87	24.88	27.44
39	38.94	24.00	33.10	35.85	32.46	28.77	40.92	46.60	27.26	24.63	27.41
42	38.25	24.48	32.12	36.06	31.93	28.81	40.53	46.66	27.41	24.26	26.34
45	37.98	23.96	32.59	35.46	32.30	29.04	40.80	46.05	27.55	24.34	25.43
48	37.95	24.02	32.24	36.15	32.03	28.78	39.93	46.42	27.51	24.44	25.55
51	37.77	23.95	31.55	35.28	31.53	29.41	40.07	45.96	27.33	24.34	26.03
54	36.90	23.94	31.87	35.60	30.96	29.18	39.59	45.67	26.78	24.21	25.62
57	38.00	23.55	31.44	35.27	31.81	29.38	38.87	45.54	27.61	24.28	26.22
60	36.38	23.94	31.33	35.21	31.65	29.26	39.16	46.20	26.47	23.80	26.50
63	37.08	23.40	30.78	35.93	31.84	29.38	39.94	45.77	27.73	24.40	25.55
66	37.40	24.12	31.94	35.42	31.79	28.71	40.45	45.81	27.93	23.94	25.62
69	36.80	23.66	32.69	35.82	32.45	28.54	40.31	45.97	27.64	23.39	25.17
72	36.23	23.70	31.89	35.63	32.56	28.68	38.40	44.72	27.33	23.15	25.43
75	36.60	23.68	31.24	34.72	31.31	28.40	38.33	45.16	27.56	23.42	25.22
78	35.68	23.36	31.16	35.48	31.35	28.74	37.72	45.49	26.74	23.00	24.53
81	35.61	23.46	30.47	35.89	30.55	29.15	37.04	45.21	26.72	22.55	24.11
84	35.48	23.44	30.29	34.49	31.04	29.53	36.57	45.35	26.45	22.95	24.20
87	35.47	23.42	30.49	35.59	31.05	29.46	36.81	44.82	26.92	22.26	23.32
90	35.65	23.35	30.49	35.32	31.67	29.21	37.18	44.95	27.03	22.43	23.69
93	36.47	22.84	30.58	35.90	31.37	29.36	36.74	45.58	27.05	22.16	23.25
96	35.23	22.86	30.66	34.64	30.27	29.27	35.98	44.86	26.92	22.18	22.96
99	35.64	23.02	29.33	34.77	30.24	29.36	36.06	44.10	27.01	22.02	23.23
102	35.08	22.79	30.07	34.98	30.76	29.14	36.05	44.24	25.96	22.31	21.94
105	35.97	23.25	29.88	34.75	30.75	29.19	37.20	43.73	26.07	22.02	21.32
108	35.64	22.74	29.75	34.41	30.71	29.52	35.76	43.88	26.82	21.78	21.80
111	35.03	22.94	29.53	34.98	31.05	29.33	36.11	44.03	26.77	21.83	21.32
114	34.35	22.78	29.88	34.83	31.06	29.26	36.02	43.85	25.91	21.37	21.27
117	34.49	22.56	28.98	35.07	31.41	29.29	35.24	43.64	26.29	21.51	20.53
120	34.29	22.67	28.87	33.82	30.25	29.54	35.25	43.90	26.53		
123	34.85	22.55	29.18	33.94	30.59	29.02	34.12	43.83	26.61		
126	34.52	22.46	28.83	34.89	29.87	29.41	34.17	43.85	26.53		
129	33.75	22.66	28.92	33.36	30.03	29.07	33.57	43.41	26.67		
132	33.99	22.69	28.52	33.56	29.55	29.78	33.22	43.55	26.60		
135	34.01	22.83	28.49	33.49	30.20	29.60	33.55	43.26	26.27		

Table B.5B1. Continued.

Time (sec)	Cell 23	Cell 24	Cell 25	Cell 26	Cell 27	Cell 28	Cell 29	Cell 30	Cell 31
138	33.22	22.04	28.43	34.80	30.18	28.97	33.22	43.12	26.21
141	32.92	22.39	28.56	33.42	30.44	28.91	32.65	43.29	26.06
144	34.30	22.26	28.18	34.20	30.07	28.88	32.36	42.62	26.22
147	32.99	22.42	28.19	34.05	29.12	29.41	32.35	43.58	26.03
150	33.09	22.16	27.93	33.78	29.40	29.29	32.72	42.75	25.78
153	33.02	22.51	27.80	33.81	29.77	28.79	32.11	43.04	26.33
156	33.37	22.16	27.74	33.18	29.68	29.33	32.42	42.61	26.00
159	31.57	21.97	27.72	33.20	28.72	29.26	32.39	42.83	25.91
162	31.80	22.29	27.23	34.31	29.87	29.14	32.78	41.91	25.46
165	32.98	22.12	27.04	32.68	28.62	29.44	31.18	41.09	26.56
168	31.72	22.07	27.22	33.94	29.82	29.02	31.01	41.44	25.96
171	32.16	22.10	27.50	33.61	30.17	29.25	30.24	41.80	25.79
174	31.07	21.96	27.38	32.90	29.56	29.22	30.69	41.65	25.61

Table B.5B1. Continued.

Time (sec)	Cell 34	Cell 35	Cell 36	Cell 37	Cell 38	Cell 39	Cell 40	Cell 41	Cell 42	Cell 43	Cell 44
0	28.68	21.22	23.38	22.63	31.30	28.49	24.50	32.22	30.24	24.64	26.45
3	27.93	21.40	23.10	22.58	31.92	28.93	24.38	31.90	29.98	24.87	26.48
6	27.38	21.34	23.12	22.51	31.24	28.70	24.05	31.51	29.92	24.59	26.09
9	27.59	21.15	22.85	22.46	31.37	28.32	24.28	31.50	29.68	24.31	26.15
12	27.19	21.30	23.06	22.27	33.64	28.04	23.86	31.82	29.35	24.46	26.08
15	27.30	20.95	22.47	21.82	34.02	28.10	23.86	30.97	29.41	24.08	25.87
18	27.62	20.94	22.71	21.92	34.72	27.06	23.59	31.22	28.94	23.94	26.08
21	27.42	20.70	22.60	21.93	34.81	27.53	23.30	30.44	29.01	24.10	25.62
24	26.93	20.13	22.05	21.71	34.34	27.67	23.64	30.28	28.69	24.08	26.19
27	27.17	20.09	22.64	21.85	35.00	27.47	23.56	30.72	28.94	24.03	25.86
30	26.49	19.92	22.35	21.60	35.07	27.03	23.00	30.82	28.77	23.65	25.71
33	27.37	19.77	22.24	21.54	33.67	27.06	23.17	30.07	28.54	23.58	25.46
36	26.97	19.66	22.37	21.75	33.97	26.71	23.22	30.47	28.33	23.50	25.25
39	26.14	19.78	22.26	21.55	33.78	26.36	22.99	29.78	28.13	23.29	25.53
42	26.38	19.51	22.01	21.63	33.29	25.92	22.60	30.15	28.22	23.48	25.57
45	26.32	19.78	22.40	21.35	33.49	26.03	22.34	30.07	28.04	23.14	25.26
48	26.11	19.31	21.77	21.34	33.61	25.60	22.26	29.60	27.78	22.83	25.65
51	26.16	19.34	21.96	21.18	33.94	26.05	22.45	29.85	28.18	23.33	25.55
54	26.32	18.86	21.78	21.30	33.26	25.87	22.40	29.18	28.28	22.72	25.10
57	25.48	18.95	22.04	21.00	33.05	25.52	22.44	29.40	27.81	23.15	25.19
60	25.82	18.96	21.59	20.82	32.95	25.64	22.10	29.56	27.90	22.93	25.31
63	25.80	19.03	22.30	21.04	17.98	25.85	22.35	28.34	27.00	23.49	25.38
66	25.49	18.86	21.97	20.76	19.97	25.60	22.10	28.45	27.60	23.05	25.05
69	25.34	18.94	21.24	20.68	20.63	25.68	21.81	28.03	27.56	22.51	24.92
72	25.12	18.53	21.33	20.55	17.28	25.42	21.81	27.35	26.69	22.26	24.95
75	24.49	18.28	21.46	20.39	15.86	25.53	21.73	27.39	27.12	22.21	24.18
78	24.29	18.63	20.84	20.65	15.29	25.34	21.34	27.20	26.73	22.06	24.27
81	24.15	18.21	20.93	19.96	15.30	24.83	21.12	27.78	26.23	21.92	24.46
84	23.95	18.26	20.83	19.75	15.29	25.03	21.00	27.57	26.72	21.65	24.54
87	23.28	17.82	21.02	19.96	15.22	24.48	20.98	27.80	26.18	21.91	24.38
90	23.98	17.91	20.98	20.00	14.73	24.12	20.98	27.55	26.03	21.67	24.05
93	23.54	18.07	20.54	19.69	15.04	24.30	20.81	27.80	25.50	21.46	24.08
96	23.69	17.57	20.52	20.08	15.04	24.07	20.80	27.67	26.10	21.79	24.15
99	23.45	17.32	20.77	19.98	15.19	24.10	20.47	27.46	26.45	21.79	24.32
102	23.01	17.51	20.71	19.70	14.95	23.45	20.79	26.72	26.05	21.86	24.22
105	22.74	17.61	20.74	19.51	14.71	23.68	20.38	26.82	26.04	21.87	24.53
108	22.66	17.00	20.35	19.56	15.07	23.31	20.02	26.94	26.29	21.73	23.87
111	22.53	17.70	20.42	19.51	14.99	23.03	19.75	26.88	25.34	21.58	24.00
114	22.12	16.91	20.31	19.66	14.64	23.09	19.86	26.00	25.50	21.82	23.79
117	21.68	17.24	20.37	19.67	14.73	22.92	19.99	25.93	25.35	21.46	24.11

Table B.5B1. Continued.

Time (sec)	Cell 45	Cell 46	Cell 47	Cell 48	Cell 49	Cell 50	Cell 51	Cell 52	Cell 53	Cell 54	Cell 55
0	26.77	25.64	24.95	51.32	25.18	29.14	24.48	25.00	22.06	28.52	19.82
3	26.60	25.81	24.10	51.86	25.26	28.88	23.76	24.68	21.75	28.03	19.91
6	26.68	25.91	23.99	49.31	24.78	29.47	23.77	24.34	21.92	27.78	20.09
9	26.97	25.99	23.96	50.60	24.95	29.38	23.99	23.45	21.79	27.56	19.93
12	26.56	25.90	23.84	51.48	24.71	29.59	22.74	23.73	21.58	28.16	19.81
15	26.69	25.73	23.55	50.81	24.46	28.74	23.48	23.68	21.53	27.05	19.78
18	26.15	26.16	23.25	47.99	24.32	29.32	22.39	23.21	21.28	26.40	19.32
21	26.56	25.64	23.03	50.85	24.18	28.89	23.14	23.22	21.17	26.86	20.09
24	26.22	25.60	23.25	50.64	23.83	28.53	22.64	22.96	21.32	26.46	19.25
27	26.14	25.37	22.95	47.55	23.98	28.69	22.98	23.78	21.13	26.87	19.59
30	26.16	25.58	22.96	48.40	23.64	28.91	22.43	22.93	20.97	26.76	19.46
33	26.09	25.35	22.84	47.07	24.02	28.86	22.27	22.99	21.19	26.76	19.37
36	25.96	25.30	22.19	45.11	23.44	28.71	22.04	23.37	20.93	26.11	19.08
39	26.26	25.16	22.01	45.71	22.87	28.84	22.23	22.67	20.99	25.66	19.00
42	25.77	25.33	21.65	45.32	23.33	28.73	21.58	23.02	20.79	25.21	19.15
45	25.83	25.33	21.86	44.11	22.75	29.13	21.44	23.23	20.54	24.89	18.89
48	25.74	24.88	21.43	46.46	23.09	28.66	21.57	23.07	20.61	25.09	18.66
51	25.61	25.20	22.05	44.56	22.99	28.79	21.58	22.47	20.66	25.12	18.80
54	25.50	24.95	21.60	47.14	22.41	28.71	21.51	23.01	20.63	25.00	19.09
57	25.28	24.94	21.06	45.63	22.85	28.58	20.88	22.62	20.80	25.21	18.95
60	25.27	24.79	21.61	42.72	22.14	28.48	21.35	22.91	20.63	25.03	18.94
63	25.35	25.45	21.39	14.64	22.82	28.40	21.57	22.37	20.75	24.80	18.59
66	25.44	25.08	21.15	14.75	22.72	28.01	21.08	21.93	20.50	24.37	18.37
69	25.38	24.24	21.01	14.16	22.57	27.81	20.59	22.44	20.14	24.60	18.62
72	25.40	24.54	21.04	14.55	22.24	27.83	20.73	22.20	19.96	24.07	18.39
75	24.89	24.07	20.60	14.60	22.15	28.15	20.63	22.19	19.92	24.16	18.15
78	25.18	23.98	20.70	14.54	21.79	27.45	20.98	22.38	19.80	23.87	18.58
81	25.16	24.13	20.64	14.29	22.06	27.51	20.34	21.78	19.62	23.47	18.23
84	25.01	24.17	20.29	14.38	21.67	28.05	19.56	21.42	19.90	23.73	18.00
87	25.08	24.00	20.32	14.37	21.18	27.85	19.76	21.43	19.71	23.45	17.88
90	25.09	23.88	19.85	14.35	21.55	27.58	19.92	20.82	19.47	23.11	18.14
93	25.05	23.95	19.72	14.61	21.79	27.95	19.35	21.00	19.48	23.17	17.80
96	24.69	23.89	19.71	14.22	22.22	27.79	19.89	21.69	19.34	22.97	17.69
99	24.83	23.61	19.46	14.63	21.78	27.58	19.14	21.10	19.45	23.17	17.89
102	25.34	23.54	19.41	14.71	21.90	27.68	19.28	20.82	19.29	22.89	17.75
105	25.05	23.65	18.95	14.79	20.59	26.65	19.10	20.49	19.00	22.67	17.80
108	24.61	23.30	19.00	14.60	20.74	27.41	18.85	21.10	19.00	22.76	17.34
111	25.41	22.94	19.14	14.42	20.12	27.57	18.53	20.46	19.02	22.89	17.28
114	25.22	23.52	19.00	14.61	20.30	27.27	18.43	20.31	19.04	22.64	17.24
117	25.47	22.92	18.95	14.41	20.26	27.21	18.76	20.14	19.01	22.56	17.02

Table B.5B1. Continued.

Time (sec)	Cell 56	Cell 57	Cell 58	Cell 59	Cell 60	Cell 61	Cell 62	Cell 63	Cell 64	Cell 65	Cell 66
0	17.59	17.48	18.65	18.06	22.97	15.71	53.17	15.01	24.21	16.50	29.51
3	18.06	17.28	18.79	17.92	22.32	15.42	53.40	14.82	23.94	16.74	28.95
6	17.74	16.98	18.87	17.27	22.44	16.01	53.66	14.83	23.82	16.74	28.75
9	17.56	17.40	18.59	17.49	21.93	15.14	54.16	14.54	23.87	17.24	28.48
12	17.46	17.24	18.53	17.36	22.06	15.51	53.10	14.91	23.81	17.05	29.21
15	17.36	17.02	18.05	17.06	21.92	15.27	56.04	14.83	23.60	16.97	28.51
18	17.27	17.00	18.78	17.16	21.46	15.05	53.20	14.77	23.55	17.26	29.06
21	17.21	16.96	18.49	16.73	21.18	15.38	51.92	14.85	23.75	16.64	27.21
24	17.30	17.09	18.40	16.88	21.51	15.00	51.34	14.75	23.38	16.66	27.67
27	17.42	17.16	17.95	17.51	21.08	14.71	50.65	14.90	23.61	16.82	28.32
30	17.19	16.91	18.10	16.70	20.74	15.00	49.07	14.64	23.16	16.79	27.39
33	16.95	16.94	18.60	16.98	21.36	15.18	49.74	14.51	23.59	16.76	28.26
36	17.29	16.92	18.17	16.52	20.65	14.95	49.96	14.55	23.43	17.25	27.25
39	17.16	16.85	17.89	16.74	20.91	15.00	50.14	14.64	23.07	17.47	27.72
42	16.92	16.60	18.01	17.13	20.72	14.75	50.36	14.77	22.82	17.65	27.19
45	17.20	16.84	18.20	16.92	20.54	15.23	51.79	14.87	23.15	16.88	26.54
48	16.98	16.80	18.03	16.46	20.35	14.74	51.39	14.64	22.91	17.29	26.95
51	16.93	16.85	18.15	17.06	20.69	14.95	49.56	15.19	22.72	17.57	26.65
54	16.68	16.48	17.87	16.88	20.00	14.95	50.93	14.79	23.36	17.04	27.36
57	16.82	16.80	17.66	17.05	20.34	15.55	50.22	14.81	22.62	16.77	26.85
60	16.90	16.77	18.03	16.78	20.79	14.72	51.49	14.55	23.07	16.74	26.92
63	16.82	16.60	18.21	16.89	20.24	14.46	15.02	14.81	22.88	17.29	26.90
66	16.93	16.67	17.98	16.71	20.02	14.43	14.71	14.65	23.02	17.00	26.63
69	16.83	16.27	18.01	16.83	20.26	14.52	14.03	14.90	22.68	16.56	26.16
72	16.71	16.52	17.63	16.41	19.95	14.34	14.33	14.81	22.73	16.76	26.45
75	16.63	16.54	17.59	16.12	19.62	14.95	15.11	14.95	22.31	16.49	26.58
78	16.60	16.18	17.49	16.46	19.77	14.68	14.26	14.84	22.39	16.72	25.33
81	16.44	16.54	17.42	16.64	19.47	14.96	13.77	14.72	21.74	16.86	25.70
84	16.33	16.30	17.28	16.18	19.36	15.24	14.28	15.01	21.81	17.32	25.50
87	16.64	16.26	17.36	16.33	18.78	14.58	13.94	15.05	21.77	16.42	24.77
90	16.61	16.30	17.12	16.71	18.94	14.52	15.10	14.63	21.69	16.84	26.09
93	15.95	16.15	17.07	16.42	18.99	14.87	14.49	14.82	21.21	17.08	25.74
96	16.54	16.28	17.33	16.23	18.93	14.95	14.87	14.91	21.45	17.34	24.38
99	16.41	16.32	17.49	16.23	18.58	14.86	14.38	14.99	21.74	17.13	25.03
102	16.27	16.13	17.20	16.74	18.63	14.58	15.05	14.75	21.62	16.75	24.47
105	15.90	16.04	17.75	16.29	18.15	14.97	14.62	14.76	21.27	16.74	24.74
108	16.08	16.14	17.41	16.15	18.22	14.78	14.98	14.87	21.15	16.75	24.56
111	15.98	16.06	17.42	16.51	18.36	14.37	14.21	14.97	21.11	16.47	24.29
114	15.90	15.99	16.98	16.29	18.38	14.89	14.36	14.57	20.95	17.04	24.66
117	15.94	16.15	17.52	16.09	18.06	14.44	13.87	14.57	21.25	16.31	23.95

Table B.5B1. Continued.

Time (sec)	Cell 67	Cell 68	Cell 69
0	56.76	30.26	47.83
3	54.08	29.13	46.60
6	53.76	27.98	46.18
9	52.18	27.98	45.51
12	52.62	27.29	45.84
15	51.36	26.26	44.36
18	51.01	26.39	45.57
21	50.11	25.75	43.40
24	51.42	26.00	43.69
27	51.28	25.52	44.35
30	49.68	25.79	43.47
33	51.58	25.55	44.21
36	52.66	24.10	42.87
39	48.68	23.76	43.03
42	46.53	22.10	41.57
45	48.78	22.53	42.18
48	45.47	21.74	40.65
51	46.88	21.62	41.76
54	47.30	21.78	40.88
57	48.06	21.72	40.80
60	49.01	21.76	40.77
63	14.58	20.97	15.20
66	14.55	20.81	14.93
69	14.59	20.02	14.72
72	14.60	20.25	15.17
75	14.44	19.96	14.85
78	14.52	19.98	14.89
81	14.51	19.34	15.27
84	14.34	19.17	15.38
87	14.42	19.05	15.29
90	14.35	18.57	16.00
93	14.60	18.54	16.09
96	14.54	18.43	16.65
99	14.42	17.83	16.51
102	14.49	17.86	16.56
105	14.48	17.13	16.47
108	14.70	17.37	16.31
111	14.30	17.26	16.12
114	14.73	17.08	16.41
117	14.11	17.05	16.34

Table B.5B2. Calcium Dynamics data for differentiating Day 8 SH-SY5Y cells cultured in 2-D monolayer after addition of 25 µM Bay K 8644. Data was used to generate Table 2.

Time (sec)	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5	Cell 6	Cell 7	Cell 8	Cell 9	Cell 10	Cell 11
0	33.62	29.95	21.42	18.49	29.10	18.75	15.26	41.30	18.45	31.38	18.63
3	34.45	29.13	21.39	17.78	28.21	18.65	14.76	41.52	18.69	31.66	18.67
6	33.42	30.55	21.52	18.15	28.58	18.70	15.16	41.20	18.23	31.16	18.62
9	33.79	29.70	21.77	18.17	28.37	18.69	14.91	41.21	18.26	31.20	18.68
12	33.20	29.17	20.89	17.74	28.63	18.66	15.04	41.24	18.55	31.42	18.48
15	33.05	29.46	20.71	18.03	28.28	18.83	14.91	41.06	18.51	31.29	18.44
18	33.11	29.37	21.09	17.89	28.59	18.78	14.76	40.42	18.11	31.63	18.66
21	33.72	29.37	21.25	17.87	28.37	18.50	14.92	40.38	17.41	31.58	18.58
24	33.24	30.01	21.50	18.25	28.80	18.60	15.09	40.50	17.90	31.39	18.55
27	33.49	30.09	21.26	17.99	28.61	18.85	14.97	40.81	17.64	31.33	18.43
30	33.41	30.32	20.79	18.10	28.29	18.58	14.68	40.60	17.33	31.73	18.52
33	33.36	29.93	20.82	18.11	28.28	18.83	15.29	41.17	17.85	31.89	18.54
36	32.97	30.30	21.17	18.18	28.74	18.48	14.61	40.69	18.00	30.50	18.46
39	33.87	30.37	21.28	17.86	28.53	18.65	15.05	41.04	18.94	30.25	18.50
42	32.88	30.31	21.19	17.94	28.61	18.77	15.08	40.42	18.70	31.08	18.41
45	32.90	30.45	21.18	18.05	28.11	18.22	14.95	40.38	18.77	31.71	18.46
48	32.58	29.57	20.85	17.81	28.08	18.45	15.17	40.46	18.78	31.29	18.47
51	32.72	30.59	21.57	17.98	28.58	18.50	15.18	40.67	19.27	30.65	18.44
54	32.69	30.75	20.70	17.84	28.11	18.62	14.93	41.28	17.84	30.79	18.36
57	33.62	29.24	21.21	18.03	28.47	18.47	14.95	40.82	17.76	31.52	18.46
60	33.03	30.08	20.81	17.95	28.83	18.23	14.92	41.77	17.80	30.67	18.40
63	33.51	30.28	20.95	17.82	28.48	18.66	15.33	40.67	17.31	31.50	18.34
66	32.38	30.16	21.06	18.01	28.52	18.53	14.88	40.95	17.34	31.53	18.59
69	32.90	30.04	21.41	17.87	27.76	18.48	14.96	41.24	17.28	31.30	18.48
72	32.63	30.55	21.16	18.27	28.28	18.43	15.04	40.99	17.48	31.58	18.31
75	33.66	30.92	20.77	17.83	28.43	18.52	15.02	40.53	16.79	31.72	18.50
78	34.02	30.47	20.91	18.00	29.41	18.29	14.91	40.69	17.00	32.08	18.31
81	32.88	31.05	20.66	18.18	28.69	18.47	14.73	41.08	16.87	31.91	18.47
84	32.91	31.04	21.07	18.30	28.61	18.06	14.97	41.08	17.13	31.45	18.35
87	32.98	31.06	20.69	17.94	28.77	18.38	14.87	40.43	17.17	32.01	18.41
90	32.94	29.91	21.22	17.95	28.77	18.21	14.84	40.31	17.14	31.15	18.30
93	33.10	30.34	21.11	17.92	28.81	18.49	14.97	40.22	17.27	31.62	18.39
96	32.77	30.75	20.98	18.14	28.46	18.33	14.95	39.71	17.19	30.74	18.25
99	33.48	30.97	20.81	17.96	27.99	18.20	14.97	40.14	17.10	31.12	18.21
102	32.36	30.62	20.67	17.99	28.13	18.58	14.99	39.95	17.25	31.81	18.33
105	32.39	30.84	20.81	18.04	28.02	18.38	14.92	39.42	17.69	30.62	18.16
108	33.61	29.84	21.10	17.83	28.00	18.40	14.82	39.91	17.24	31.13	18.32
111	32.40	29.26	20.69	17.89	27.80	18.36	14.89	39.63	16.76	31.63	18.32
114	32.78	30.24	20.67	17.97	28.17	18.08	14.79	39.84	17.34	30.40	18.27
117	32.13	31.00	20.74	18.22	28.66	18.42	14.89	39.61	17.39	29.97	18.22
120	32.50	30.92	20.57	18.06	28.54	18.66	14.79	39.83	17.40	31.01	18.12
123	33.39	30.64	20.70	18.08	27.73	18.24	14.67	39.47	17.80	31.11	18.29
126	32.92	31.10	20.55	17.65	27.51	18.14	14.79	39.52	17.90	31.64	18.26
129	32.99	30.79	20.89	17.88	27.73	18.06	14.88	39.63	17.76	31.30	18.20
132	32.97	31.02	20.72	17.76	28.48	18.26	14.99	40.14	17.57	30.82	18.14
135	32.97	29.92	20.75	18.01	27.88	18.22	14.89	39.71	17.79	30.79	18.11

Table B.5B2. Continued.

Time (sec)	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21	Cell 22
0	21.80	20.04	37.99	37.89	22.46	25.12	35.28	21.23	28.40	27.54	30.56
3	21.96	19.56	37.86	37.88	22.60	25.09	35.04	21.20	28.15	28.22	32.84
6	22.12	19.60	38.21	37.73	21.59	25.24	35.23	21.29	28.20	28.38	32.89
9	22.30	19.56	36.82	37.94	22.31	24.68	34.59	21.09	29.30	27.27	30.87
12	21.70	19.64	36.45	36.97	22.03	24.63	34.41	21.05	28.34	27.67	31.09
15	21.71	19.43	37.19	37.17	21.96	25.19	34.75	21.00	28.33	28.28	32.30
18	21.82	19.65	37.60	37.74	22.61	25.16	34.48	20.86	28.20	27.26	33.89
21	21.87	19.54	36.75	37.94	21.75	25.20	35.01	21.03	28.54	27.75	32.74
24	21.25	19.35	37.09	38.08	21.44	25.44	34.46	20.99	28.42	28.22	32.80
27	21.64	19.23	37.26	37.37	21.68	25.15	34.06	21.16	27.92	27.48	32.48
30	22.11	19.63	36.96	37.02	20.18	25.18	34.16	21.02	27.37	28.67	32.61
33	21.54	19.52	36.98	37.84	21.39	25.26	34.01	21.06	27.99	27.15	33.45
36	20.92	19.24	37.12	37.88	20.89	24.87	34.32	20.87	28.54	28.12	33.75
39	21.28	19.60	37.13	37.08	20.73	24.67	34.23	21.05	28.17	28.21	34.18
42	21.42	19.54	36.64	38.49	22.09	24.73	40.09	20.87	28.48	28.51	34.74
45	21.68	19.42	36.68	37.65	21.10	24.93	35.65	20.81	26.63	27.18	35.24
48	21.79	19.58	36.63	37.75	21.99	24.66	35.03	20.86	27.16	27.88	33.45
51	21.42	19.61	36.22	37.71	21.49	24.92	33.98	20.96	27.46	27.49	33.88
54	21.27	19.68	35.98	38.08	21.81	24.66	33.92	21.04	28.07	28.32	32.47
57	21.05	19.64	36.60	38.12	21.08	25.17	33.89	21.00	26.79	28.03	35.47
60	21.04	19.13	36.71	37.63	20.56	25.26	33.61	20.92	28.01	28.31	33.61
63	20.27	19.41	36.03	38.50	21.47	24.87	32.71	20.68	26.72	27.81	35.43
66	21.13	19.44	36.34	38.17	20.75	24.75	33.83	21.05	27.84	27.88	34.76
69	21.31	19.43	36.51	39.01	21.21	25.13	33.28	21.07	27.46	28.60	36.53
72	20.91	19.28	36.59	38.99	21.46	24.95	33.29	20.68	28.13	26.74	36.44
75	20.75	19.61	36.44	38.41	20.77	24.76	33.08	21.03	28.78	28.45	35.09
78	20.81	19.39	36.34	38.10	21.44	25.14	33.62	20.81	28.35	28.29	35.56
81	20.54	19.48	36.57	37.81	20.67	24.74	33.27	20.82	27.06	28.10	34.75
84	20.70	19.45	35.94	38.24	20.92	24.46	33.77	20.94	26.89	28.32	34.34
87	20.56	19.30	35.76	38.78	21.39	25.39	33.26	20.75	27.07	27.90	34.06
90	21.48	19.57	35.76	38.20	21.74	24.91	32.77	20.75	26.41	28.00	34.63
93	20.58	19.34	35.70	38.21	20.85	25.01	33.02	20.66	27.88	28.11	35.52
96	21.12	19.48	36.16	38.51	20.85	24.61	33.65	20.79	27.21	28.40	34.51
99	21.51	19.11	35.70	37.25	21.81	24.76	38.62	20.58	26.41	27.44	34.97
102	21.16	19.38	35.34	38.10	20.67	24.94	34.30	20.88	26.57	28.40	32.56
105	20.98	19.39	35.22	37.50	21.26	25.02	33.68	20.58	26.26	28.19	33.73
108	21.50	19.07	35.10	37.60	21.46	24.88	34.11	20.70	25.94	27.73	34.07
111	21.49	19.05	35.20	36.60	20.97	25.18	33.32	20.72	26.23	28.41	34.02
114	20.81	19.13	34.31	37.26	20.53	24.67	33.21	20.73	27.18	27.81	34.45
117	20.97	19.12	34.49	37.01	20.53	24.60	32.96	20.60	26.09	27.70	36.47
120	21.24	19.11	34.71	37.80	19.73	24.81	33.91	20.84	26.44	27.60	34.07
123	21.33	19.03	34.36	37.59	21.14	24.72	33.61	20.43	25.90	28.93	34.03
126	21.21	18.93	34.76	36.98	21.08	24.94	33.23	20.36	25.81	27.61	35.19
129	21.03	19.39	33.91	37.73	20.95	24.61	32.80	20.34	26.01	27.72	34.26
132	20.51	19.00	34.52	36.50	20.56	24.67	40.44	20.50	25.66	28.67	33.94
135	21.38	19.01	34.91	37.03	20.40	24.94	34.54	20.65	25.31	28.41	34.97

Table B.5B2. Continued.

Time (sec)	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21	Cell 22
138	20.92	19.08	34.01	37.01	20.53	24.95	33.07	20.54	26.14	28.87	34.62
141	21.27	19.17	34.35	37.80	20.35	25.38	33.71	20.53	25.52	27.87	36.12
144	20.94	19.20	34.70	38.29	20.60	24.68	33.39	20.37	26.03	27.32	35.87
147	20.88	19.12	34.55	38.24	19.89	24.93	33.34	20.50	25.63	26.73	35.63
150	20.28	18.95	34.22	38.06	20.96	24.64	33.48	20.47	26.25	26.73	35.28
153	20.72	19.14	34.19	37.32	20.91	24.48	33.45	20.45	24.33	25.65	36.49
156	20.80	18.90	34.04	38.20	20.63	24.45	32.65	20.62	25.36	27.92	36.59
159	20.78	19.07	34.29	36.98	20.99	24.46	33.37	20.51	25.51	27.42	35.12
162	20.53	18.79	34.18	37.67	20.98	24.64	33.44	20.30	24.70	27.54	35.22
165	20.42	19.08	33.90	37.49	20.25	24.39	34.23	20.12	25.20	29.10	34.52
168	21.12	19.05	33.91	38.07	20.78	24.60	33.68	20.68	25.53	27.93	36.73
171	20.86	18.94	33.64	38.60	20.37	24.38	32.48	20.30	24.37	27.20	36.20

Table B.5B2. Continued.

Time (sec)	Cell 23	Cell 24	Cell 25	Cell 26	Cell 27	Cell 28	Cell 29	Cell 30	Cell 31	Cell 32	Cell 33
0	19.01	17.46	28.23	28.76	28.70	21.73	15.32	35.47	21.53	15.05	30.51
3	20.01	17.28	28.63	27.42	29.57	21.68	15.37	34.44	20.92	14.86	30.75
6	18.84	17.39	28.95	28.16	28.71	21.97	15.12	34.91	21.01	15.12	30.92
9	20.15	17.22	28.75	28.03	28.45	21.79	15.33	35.34	21.38	14.91	30.17
12	20.74	17.50	28.41	28.71	29.69	21.69	15.13	35.21	20.68	14.83	29.70
15	20.46	17.50	28.78	28.04	29.47	21.55	14.98	34.68	21.19	14.88	30.24
18	19.93	17.50	28.50	28.02	28.39	21.50	15.37	34.35	20.86	14.94	31.16
21	19.64	17.25	28.93	27.68	28.62	21.51	15.01	35.27	21.30	14.69	30.83
24	20.39	17.37	28.27	27.88	28.25	21.63	15.10	34.96	21.04	14.88	31.03
27	20.61	17.28	28.81	28.31	29.15	21.78	15.38	34.29	21.04	14.90	30.83
30	19.95	17.28	28.98	28.28	29.09	21.61	15.14	34.63	21.00	14.76	30.99
33	19.96	17.56	28.92	28.13	27.93	21.59	14.89	34.33	21.26	14.83	31.10
36	19.56	17.57	28.27	27.46	28.77	21.56	15.02	34.44	20.94	14.92	31.23
39	20.24	17.40	28.42	27.74	29.92	22.04	15.15	34.16	21.36	14.78	30.97
42	20.63	17.21	28.48	28.31	29.08	21.49	15.06	34.04	21.12	14.72	31.03
45	19.94	17.54	28.70	27.91	29.45	21.45	15.20	34.42	20.76	14.81	30.56
48	20.05	17.25	29.12	27.88	28.42	21.82	15.17	33.79	21.12	14.88	30.27
51	19.65	17.43	28.36	28.08	28.94	21.94	15.09	34.57	20.81	14.93	30.49
54	19.73	17.49	29.02	28.26	29.58	21.31	15.08	34.87	21.51	14.87	30.49
57	20.03	17.35	28.56	28.47	28.91	21.62	15.17	34.15	20.69	14.74	31.01
60	19.29	17.17	28.77	28.87	28.94	21.32	15.22	34.38	20.68	14.79	31.04
63	20.45	17.31	28.90	28.20	28.48	21.12	15.00	33.89	20.77	14.93	30.97
66	19.90	17.32	29.05	28.00	28.49	21.20	15.22	33.88	21.09	14.92	31.46
69	19.48	17.42	29.20	26.93	29.54	21.63	15.20	34.01	21.12	14.92	31.14
72	20.06	17.50	29.03	28.23	29.36	21.56	15.04	33.65	20.63	14.93	31.05
75	19.92	17.21	29.27	28.27	29.17	21.19	15.19	34.23	21.22	14.90	31.48
78	19.88	17.40	29.40	28.57	29.89	21.64	15.21	33.70	21.17	15.20	31.53
81	21.08	17.52	28.68	27.15	28.69	21.24	14.84	34.04	21.08	14.83	31.09
84	19.80	17.33	28.56	28.15	28.97	21.20	15.08	33.84	21.33	14.94	31.04
87	20.18	17.15	29.14	27.82	29.12	21.25	15.19	35.21	21.26	14.94	30.70
90	20.63	17.11	29.21	28.25	29.07	21.44	15.04	34.04	21.18	14.82	31.08
93	20.35	17.43	28.85	28.34	30.14	20.96	15.15	34.18	20.76	15.01	31.20
96	20.59	17.17	29.31	27.79	28.49	21.09	15.02	34.09	20.94	14.94	30.92
99	21.02	17.30	28.38	28.78	28.73	21.20	15.49	33.98	20.78	14.93	30.73
102	21.26	17.20	28.96	27.96	29.93	21.13	15.21	33.58	20.62	15.05	30.26
105	21.24	17.02	28.38	28.03	28.60	21.46	15.05	33.34	21.12	14.74	30.51
108	20.98	17.27	27.98	28.81	28.19	21.04	15.47	33.45	20.58	15.12	30.02
111	20.35	17.07	29.07	28.06	28.79	21.30	14.95	33.35	20.75	14.92	30.61
114	20.44	17.14	28.59	27.85	28.42	21.43	15.17	33.44	21.06	14.83	30.06
117	20.75	17.28	28.90	27.45	28.70	21.06	15.09	33.53	20.93	14.79	30.36
120	20.35	17.41	28.53	27.98	28.73	21.35	15.03	33.12	20.49	14.97	30.15
123	20.80	17.04	28.28	27.91	27.60	21.24	15.34	33.66	20.86	14.76	30.67
126	21.05	17.34	28.80	27.73	28.21	21.31	14.93	33.74	20.76	15.04	29.69
129	21.50	17.20	28.12	28.21	28.80	21.42	14.86	33.01	20.68	14.79	30.18
132	20.59	17.21	28.75	28.03	28.24	21.35	15.13	33.53	20.75	14.83	29.99
135	20.37	17.29	28.86	27.77	28.62	21.29	14.98	33.91	20.73	14.79	29.75

Table B.5B2. Continued.

Time (sec)	Cell 23	Cell 24	Cell 25	Cell 26	Cell 27	Cell 28	Cell 29	Cell 30	Cell 31	Cell 32	Cell 33
138	20.49	16.90	28.86	27.54	29.05	21.12	15.16	33.99	20.80	15.05	30.22
141	20.40	17.22	28.99	27.24	27.64	21.16	14.93	33.47	20.78	14.96	30.54
144	20.87	17.26	28.79	27.81	28.79	20.93	15.01	34.30	20.45	14.94	29.94
147	20.53	17.15	29.21	27.31	28.88	21.07	14.97	33.09	20.62	15.03	30.66
150	21.16	16.97	29.31	28.13	28.46	21.13	15.15	32.97	20.59	14.87	31.02
153	19.97	16.95	28.74	28.45	28.08	21.00	15.22	33.35	20.64	15.19	30.27
156	20.35	17.29	29.04	27.04	27.92	20.98	15.09	33.34	20.60	15.05	30.68
159	20.53	17.62	28.63	28.06	27.83	20.92	14.96	33.79	20.67	14.81	30.19
162	21.31	17.07	28.94	28.12	28.33	21.17	14.85	33.93	20.36	14.81	30.26
165	21.19	17.13	28.53	27.86	28.59	21.18	14.84	34.01	20.45	14.86	30.25
168	20.90	17.04	29.13	28.07	28.25	21.09	15.15	33.99	20.77	14.96	30.35
171	21.15	16.84	29.32	27.55	27.78	20.72	15.09	33.23	20.38	14.72	30.37

Table B.5B2. Continued.

Time (sec)	Cell 34	Cell 35	Cell 36	Cell 37	Cell 38	Cell 39	Cell 40	Cell 41	Cell 42	Cell 43	Cell 44
0	34.67	31.84	14.64	28.03	29.94	36.57	22.90	32.08	23.71	22.54	23.61
3	34.36	31.22	14.19	27.81	29.82	36.21	22.81	32.55	23.01	22.45	23.27
6	34.66	31.23	14.35	28.00	29.64	36.18	23.08	32.03	22.81	22.34	22.11
9	33.32	31.24	14.57	28.19	29.95	35.83	22.95	31.44	23.41	22.15	23.25
12	33.32	31.36	14.27	26.97	29.86	37.03	22.70	32.67	23.89	22.98	23.25
15	34.02	31.73	14.35	26.84	29.42	36.49	22.61	31.33	23.26	22.90	22.52
18	34.51	31.83	13.92	26.95	29.82	36.35	22.63	31.53	22.72	21.61	23.44
21	33.79	30.53	14.40	27.02	29.74	35.87	22.78	31.42	22.99	22.47	22.37
24	34.34	30.44	14.22	27.06	29.37	35.47	22.23	31.90	23.13	22.44	22.44
27	34.60	31.13	14.38	26.64	30.04	35.73	22.80	31.86	22.57	22.48	21.68
30	34.05	31.04	14.40	26.73	29.90	35.96	22.94	31.83	23.11	21.98	22.81
33	33.99	31.10	13.95	26.99	29.63	36.74	22.90	31.97	23.85	22.46	22.55
36	34.38	30.83	14.35	27.32	30.38	36.10	22.42	31.69	22.37	22.30	22.48
39	33.79	30.72	14.48	26.55	29.18	35.43	23.07	31.02	23.52	22.05	21.32
42	33.86	30.56	14.14	26.64	29.38	35.60	23.04	30.90	24.13	21.92	21.99
45	34.27	30.98	14.39	27.12	29.57	35.53	22.80	31.02	23.14	22.03	22.49
48	33.97	31.03	14.35	27.04	29.23	35.28	22.96	29.91	22.45	21.98	22.69
51	33.67	30.82	14.03	26.69	29.49	34.94	22.64	31.44	23.72	22.46	22.15
54	34.77	31.39	14.29	26.86	29.95	36.23	22.81	31.14	23.29	22.11	21.88
57	34.38	31.31	14.19	26.78	29.34	36.29	22.38	31.72	22.32	22.15	22.14
60	33.80	31.09	14.31	26.59	30.05	36.07	22.52	31.47	22.93	21.90	23.01
63	34.05	31.91	14.33	26.42	29.18	36.23	22.43	31.59	22.59	21.93	21.80
66	34.58	31.25	14.30	26.42	29.46	35.80	22.64	31.35	23.09	22.08	22.80
69	34.19	31.58	14.32	26.26	28.77	36.13	22.61	30.94	23.62	22.44	22.11
72	34.35	31.19	14.46	26.55	29.41	35.32	22.33	31.87	22.70	21.81	21.73
75	34.51	31.08	14.34	26.81	29.13	36.17	22.30	31.92	22.61	22.15	22.63
78	34.23	31.01	14.27	26.47	29.06	35.72	22.59	31.32	21.97	22.06	22.13
81	35.02	31.53	14.23	26.21	28.48	35.43	22.84	31.03	21.97	22.67	21.76
84	34.42	31.97	14.12	26.15	28.65	35.74	22.40	31.00	23.04	21.94	22.11
87	34.95	31.23	14.10	26.79	29.05	35.62	22.56	30.84	23.01	21.59	21.57
90	34.30	30.83	13.98	26.52	28.55	35.45	22.43	30.70	23.13	22.25	21.48
93	33.95	31.22	14.22	26.23	28.04	36.10	22.55	30.59	22.82	21.74	23.55
96	33.60	30.63	14.42	26.69	27.79	36.04	22.44	31.68	22.63	21.77	22.36
99	34.09	31.57	14.26	26.36	28.48	34.81	22.56	31.27	23.62	22.02	21.96
102	34.01	30.99	14.14	26.32	28.03	35.46	22.40	31.21	22.85	21.52	22.50
105	33.20	30.83	14.26	25.97	28.18	35.76	22.42	30.42	23.46	21.95	21.35
108	33.75	31.35	14.31	26.44	28.09	35.61	22.57	31.26	23.01	22.02	22.76
111	33.75	30.74	14.48	26.45	28.09	35.40	22.54	30.65	22.72	22.17	22.47
114	33.28	31.41	14.57	26.06	27.84	35.47	22.19	30.86	22.97	21.42	22.43
117	34.50	31.06	14.38	25.97	27.72	36.54	22.32	30.52	23.35	21.52	21.78
120	33.81	30.81	14.29	26.10	28.14	36.31	21.96	29.47	22.66	22.07	22.15
123	34.50	30.95	14.31	25.70	27.80	36.53	22.34	30.54	22.74	21.74	21.05
126	33.77	30.68	14.07	25.52	27.90	35.02	22.10	30.24	23.24	21.97	22.73
129	33.75	30.67	14.19	24.97	28.49	35.99	22.01	30.53	23.34	21.35	22.29
132	33.89	30.10	14.00	25.50	28.07	36.56	22.36	30.70	23.19	21.65	22.55
135	34.66	30.49	14.30	25.59	27.94	35.65	22.26	30.35	23.85	21.37	22.31

Table B.5B2. Continued.

ime (sec)	Cell 34	Cell 35	Cell 36	Cell 37	Cell 38	Cell 39	Cell 40	Cell 41	Cell 42	Cell 43	Cell 44
138	34.51	31.01	14.45	24.94	27.49	36.40	22.13	30.78	22.92	21.86	22.87
141	33.84	30.40	14.21	24.93	26.82	36.06	22.35	30.47	22.35	21.62	21.87
144	34.40	30.70	14.21	24.88	26.83	35.40	21.94	29.64	23.12	21.83	22.07
147	34.07	30.78	14.23	25.01	26.09	36.11	22.07	30.47	23.00	21.95	21.76
150	34.30	30.80	14.12	25.28	25.51	35.84	21.96	29.44	22.05	21.66	21.98
153	33.82	30.61	14.25	24.67	25.59	36.36	22.08	30.34	23.27	21.61	21.35
156	34.94	30.81	14.16	24.47	24.80	36.36	22.20	30.04	23.63	21.73	21.22
159	34.04	30.58	14.36	25.22	24.16	35.78	22.03	29.04	22.28	21.68	20.32
162	33.89	30.74	14.42	24.74	24.74	36.20	21.79	30.02	22.45	21.51	22.01
165	33.92	31.10	14.09	24.65	24.42	36.12	22.03	29.84	22.63	22.14	20.71
168	33.86	31.15	13.93	24.23	24.46	36.27	21.80	30.02	22.28	21.59	21.19
171	34.45	31.05	14.39	23.92	23.89	36.16	21.66	29.89	24.08	21.77	21.80
174							21.83	30.07	22.49	21.73	21.63
177							21.97	29.60	22.67	21.07	22.13
180							21.93	28.93	22.73	21.47	21.28

Table B.5B2. Continued.

Time (sec)	Cell 45	Cell 46	Cell 47	Cell 48	Cell 49	Cell 50	Cell 51	Cell 52	Cell 53	Cell 54	Cell 55
0	19.80	20.71	22.34	17.50	28.87	19.55	19.66	24.78	23.05	19.66	23.63
3	19.97	21.18	22.08	17.34	28.82	19.58	19.94	24.63	23.50	19.96	22.65
6	20.18	21.29	22.50	17.31	28.11	20.17	20.12	24.90	23.47	19.90	22.58
9	19.62	20.94	21.81	17.52	27.87	19.47	20.00	25.17	24.28	19.61	21.27
12	19.79	20.99	22.54	17.63	28.46	19.68	19.77	24.34	23.01	19.89	21.56
15	19.59	21.07	22.28	17.36	28.97	19.73	20.11	24.70	22.36	19.47	22.34
18	19.77	20.91	21.72	17.39	28.42	19.56	19.86	24.21	24.57	19.90	22.40
21	19.84	21.49	21.82	17.05	28.19	19.87	19.92	25.04	22.96	19.45	22.48
24	19.73	20.92	21.86	17.54	28.01	19.54	19.87	24.12	23.11	19.57	22.73
27	19.67	21.38	22.20	17.55	28.30	19.61	19.88	24.61	23.68	19.56	22.24
30	19.97	20.65	22.62	17.54	27.98	19.21	19.68	24.65	23.79	19.60	21.66
33	19.84	21.59	22.07	17.16	28.48	19.39	19.81	24.60	24.14	19.35	22.55
36	20.00	21.10	21.42	17.33	27.22	19.20	19.83	24.48	24.34	19.34	22.36
39	19.85	21.36	22.37	16.95	27.47	19.46	20.13	24.07	23.53	19.85	21.86
42	19.66	21.64	21.85	17.30	26.66	19.40	20.28	24.60	23.65	19.71	21.65
45	19.82	21.38	21.20	17.23	27.13	19.81	19.79	24.45	24.10	19.26	22.25
48	19.74	20.66	21.62	17.60	27.67	19.79	20.13	24.25	24.08	19.39	21.46
51	19.47	20.62	21.82	17.32	27.47	19.18	19.92	24.17	24.01	19.39	21.56
54	19.80	21.81	22.22	17.15	26.88	19.51	19.88	24.48	23.25	19.46	22.13
57	19.47	20.94	21.69	17.31	26.90	19.37	19.70	23.58	23.93	19.19	21.70
60	19.99	20.61	21.84	17.16	28.31	19.04	19.87	24.03	23.62	19.46	22.21
63	19.75	20.74	21.65	17.34	27.87	19.29	19.57	24.21	23.86	19.56	21.40
66	19.86	21.03	22.02	16.90	27.38	19.20	19.73	24.03	23.02	19.26	22.01
69	19.41	21.28	22.00	17.22	27.71	19.27	19.45	24.44	22.94	19.34	22.47
72	19.27	20.95	21.51	17.08	27.73	19.44	19.73	23.64	23.26	19.70	21.80
75	19.54	20.59	21.53	17.09	27.87	19.53	19.81	24.15	22.27	19.46	22.15
78	19.77	21.36	21.60	17.20	26.29	19.23	19.43	23.52	22.29	19.18	22.90
81	19.72	21.04	21.35	17.27	26.94	19.49	19.88	24.15	23.09	19.11	21.38
84	19.59	21.03	21.77	17.16	27.06	19.41	19.89	24.23	23.98	19.61	21.72
87	19.49	20.59	21.42	17.30	26.21	19.24	19.53	24.04	23.39	19.26	21.20
90	19.45	21.29	21.32	17.33	26.29	19.24	19.81	23.65	23.11	18.97	21.74
93	19.41	21.16	21.30	17.84	26.71	19.14	19.62	23.92	23.30	19.09	22.85
96	19.63	20.94	21.82	17.18	26.79	19.62	19.50	23.69	25.07	19.28	20.40
99	19.75	20.75	21.88	17.39	26.21	19.23	19.23	23.35	23.40	19.49	21.07
102	19.16	20.65	21.68	17.38	26.79	19.07	19.48	23.56	22.84	19.28	21.66
105	19.28	20.73	21.40	17.57	26.11	19.25	19.71	23.88	23.19	19.32	21.13
108	19.01	21.36	21.64	16.96	26.81	19.04	19.65	23.74	23.10	19.22	20.56
111	19.28	20.62	21.29	17.20	26.25	19.34	19.10	23.60	23.35	18.86	21.80
114	19.11	20.84	21.22	17.12	26.99	19.39	19.51	23.69	23.90	19.11	21.90
117	19.67	20.56	21.08	17.07	26.97	18.95	19.42	23.22	23.35	19.12	21.93
120	19.13	21.35	22.01	17.38	27.22	19.04	19.67	23.56	23.16	19.00	22.55
123	19.11	20.80	21.04	17.39	26.20	19.23	19.50	23.60	23.40	18.65	21.11
126	19.34	20.62	21.27	17.26	26.19	19.18	19.39	23.38	23.56	19.00	21.90
129	19.37	20.46	21.60	17.24	25.84	19.09	19.18	23.55	22.98	19.51	21.47
132	18.88	21.48	21.38	17.13	26.28	19.07	19.35	23.57	23.31	19.09	21.18
135	19.07	21.01	21.19	17.34	25.67	18.97	19.34	23.69	23.87	19.09	21.71

Table B.5B2. Continued.

Time (sec)	Cell 45	Cell 46	Cell 47	Cell 48	Cell 49	Cell 50	Cell 51	Cell 52	Cell 53	Cell 54	Cell 55
138	19.28	20.90	21.41	17.45	25.68	19.18	19.04	23.17	23.81	19.29	21.61
141	19.41	20.25	21.66	17.23	25.71	19.11	19.85	23.44	22.69	19.04	21.45
144	19.25	20.53	21.14	17.04	25.59	19.01	19.37	23.50	23.65	19.05	22.31
147	18.91	21.11	20.52	17.28	24.89	19.07	19.14	23.49	22.99	18.86	21.74
150	19.38	21.37	20.94	17.28	25.92	19.07	19.38	23.32	23.19	18.79	21.84
153	19.41	20.52	21.09	17.40	25.61	19.11	18.94	23.28	22.72	18.84	20.98
156	18.92	21.10	21.20	17.26	25.92	19.33	19.34	23.14	22.97	18.98	21.16
159	19.14	20.60	21.16	16.83	26.54	18.96	19.32	23.29	22.62	19.15	21.36
162	19.06	20.78	21.15	17.46	25.95	18.92	19.17	23.60	23.31	19.33	21.61
165	18.82	20.47	20.96	17.16	25.81	19.07	19.19	23.27	22.48	18.45	21.30
168	18.94	20.24	20.57	17.22	25.13	18.77	19.21	22.99	22.74	18.78	21.30
171	19.14	20.21	20.93	17.25	25.19	19.18	19.82	23.16	22.95	18.79	21.28
174	19.11	20.64	20.77	17.07	25.53	18.81	19.34	22.66	22.94	18.79	21.42
177	19.09	20.41	20.39	16.83	25.26	18.73	19.07	23.21	22.44	18.66	20.94
180	18.86	20.26	20.82	17.31	24.88	18.83	19.21	23.42	22.77	18.81	21.18

Table B.5B2. Continued.

Time (sec)	Cell 56	Cell 57	Cell 58	Cell 59	Cell 60	Cell 61	Cell 62
0	21.89	19.34	19.92	19.82	20.10	25.82	18.77
3	21.95	19.60	20.13	19.64	19.90	26.11	18.98
6	21.12	19.60	19.80	19.93	20.16	26.15	18.33
9	21.71	19.37	19.95	19.80	19.75	25.67	18.51
12	22.07	19.29	19.96	19.73	20.29	26.12	18.69
15	21.46	19.13	19.86	19.49	20.11	26.78	18.36
18	21.95	19.44	19.85	19.61	20.05	26.28	18.28
21	21.70	19.45	19.90	19.40	19.78	25.97	18.49
24	21.52	18.86	19.64	19.42	19.95	25.76	18.40
27	21.30	19.01	19.40	19.44	19.91	26.00	18.51
30	21.65	19.60	19.59	19.38	19.79	25.56	18.44
33	21.76	18.80	19.31	19.92	20.01	25.93	18.38
36	21.41	18.97	19.74	19.64	19.89	25.74	18.24
39	21.28	19.33	18.98	19.57	19.79	25.70	17.99
42	21.46	18.94	18.71	19.56	19.62	25.42	18.50
45	21.65	18.90	18.70	19.17	20.02	25.74	18.22
48	21.44	18.58	18.97	19.48	19.87	25.35	18.39
51	21.21	18.79	18.89	19.39	20.51	25.55	18.47
54	21.23	18.92	19.16	19.77	20.87	25.88	18.08
57	21.41	19.44	19.41	19.40	20.82	25.85	18.32
60	21.23	19.08	19.95	19.21	20.32	25.92	18.71
63	21.67	18.90	19.68	19.62	19.92	25.81	18.46
66	21.29	19.00	19.53	19.21	20.28	25.53	18.51
69	20.69	18.87	19.63	19.69	20.38	25.35	18.45
72	20.87	19.11	19.24	19.21	20.53	25.63	18.40
75	21.13	19.03	19.42	19.33	20.17	25.70	18.07
78	21.57	18.76	19.35	19.37	20.40	25.28	18.57
81	20.67	18.77	18.64	19.57	20.62	25.68	18.28
84	21.69	18.75	19.00	19.69	20.29	25.52	18.22
87	21.41	18.47	19.17	19.50	20.78	25.03	18.43
90	21.12	18.48	18.74	19.44	21.13	25.05	18.12
93	20.92	18.82	19.20	19.03	20.68	25.30	18.44
96	20.72	19.00	18.62	19.06	20.49	25.37	18.41
99	20.74	18.73	18.93	19.38	20.72	25.32	18.07
102	20.93	18.87	19.05	19.25	20.33	25.77	18.43
105	20.96	18.90	18.98	19.28	20.46	26.05	18.20
108	21.12	18.61	18.96	19.28	20.53	25.34	18.09
111	20.90	18.65	18.87	19.28	20.59	25.57	18.44
114	20.30	18.59	18.84	18.79	19.93	25.13	17.92
117	21.25	18.65	19.20	19.24	20.10	25.30	17.93
120	20.39	18.61	19.07	18.96	19.50	25.03	18.22
123	20.68	18.53	18.60	19.19	20.19	25.17	18.00
126	21.26	18.71	18.94	19.31	20.23	25.67	18.26
129	20.69	18.84	18.63	18.88	20.14	25.39	18.23
132	21.22	18.82	18.58	19.17	19.67	24.90	18.23
135	20.64	18.67	18.64	19.37	19.67	25.43	17.94

Table B.5B2. Continued.

Time (sec)	Cell 56	Cell 57	Cell 58	Cell 59	Cell 60	Cell 61	Cell 62
138	21.19	18.50	18.70	19.24	20.19	25.33	18.28
141	20.77	18.79	18.64	18.97	20.14	25.11	17.81
144	20.88	18.33	18.34	19.05	20.24	25.32	18.04
147	20.74	18.29	18.66	19.07	20.32	25.16	17.88
150	20.95	18.04	18.58	19.17	20.07	25.66	17.89
153	21.28	18.27	18.90	19.01	19.97	24.81	18.26
156	20.69	18.41	18.47	19.12	19.88	24.56	18.09
159	20.67	18.55	18.34	19.00	20.00	25.18	18.14
162	20.61	18.34	18.49	19.51	20.40	24.85	18.01
165	20.65	18.36	18.37	18.98	20.36	25.03	18.12
168	20.80	18.46	18.72	19.00	20.42	25.38	17.94
171	21.11	18.09	18.21	18.98	20.94	24.67	17.67
174	20.44	18.35	18.51	18.91	20.28	24.65	17.76
177	20.38	18.54	18.41	19.00	20.08	25.10	18.07
180	20.39	18.61	18.40	19.06	19.77	25.09	17.90

Table B.5C1. Calcium Dynamics data for differentiating Day 8 SH-SY5Y cells cultured in 3-D collagen hydrogel after addition of 5 µM Bay K 8644. Data was used to generate Table 2.

Time (sec)	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5	Cell 6	Cell 7	Cell 8	Cell 9	Cell 10	Cell 11
0	127.41	77.42	75.19	74.80	54.41	55.24	89.04	47.39	39.30	41.88	70.16
3	126.91	78.12	75.55	75.46	55.03	55.59	89.45	47.74	39.30	42.15	72.27
6	127.40	78.64	74.70	74.55	54.45	55.11	89.01	47.46	38.97	42.10	72.75
9	127.39	78.36	72.68	73.34	53.69	55.33	89.13	47.86	39.36	42.40	73.22
12	126.84	78.36	72.50	74.02	54.44	55.39	88.21	47.35	38.92	42.57	72.86
15	126.72	78.01	72.58	74.09	53.92	55.13	88.76	47.02	39.11	42.10	71.37
18	126.68	77.84	74.16	73.86	54.42	55.62	88.60	46.86	38.80	42.00	72.17
21	126.15	77.80	74.04	73.22	53.40	55.05	87.95	47.41	39.06	41.22	70.68
24	126.27	77.58	72.95	72.70	54.29	54.94	88.08	46.63	39.27	41.89	71.34
27	126.77	77.31	73.11	73.72	53.98	55.13	88.71	47.45	38.82	41.70	71.69
30	124.94	77.22	72.87	73.36	54.35	54.79	88.63	46.52	38.80	42.66	71.88
33	125.91	77.51	73.03	73.37	54.09	54.87	88.71	47.28	38.76	44.16	72.63
36	125.95	76.86	73.64	73.23	54.47	54.76	88.14	47.06	38.52	42.89	72.10
39	126.59	77.97	75.39	75.33	54.42	54.89	88.07	46.68	38.70	41.45	69.67
42	125.29	78.48	76.47	73.35	53.39	54.26	89.76	46.43	38.13	40.90	70.67
45	125.87	77.14	75.04	72.96	53.54	54.38	89.27	46.62	38.72	40.92	69.37
48	125.19	78.16	74.82	73.29	53.91	54.80	87.59	47.10	38.38	41.67	69.50
51	124.26	77.48	74.01	73.09	53.30	54.73	87.72	46.51	37.99	40.82	69.34
54	125.28	77.36	73.54	71.85	53.63	54.24	88.25	46.26	37.97	41.19	70.04
57	124.72	77.56	73.29	71.87	53.17	54.09	87.40	47.01	37.41	40.39	69.70
60	124.48	77.19	74.16	73.13	52.94	54.08	87.27	46.31	38.03	40.34	69.42
63	125.75	76.84	73.48	72.37	53.14	54.14	87.41	46.24	37.47	40.32	67.72
66	125.00	76.51	74.31	72.48	53.44	54.11	86.97	46.14	37.54	41.26	68.50
69	124.22	77.16	74.95	73.19	52.45	54.12	88.06	46.20	38.07	40.48	70.04
72	124.28	77.02	75.49	73.15	52.62	54.00	88.12	46.34	37.99	40.91	69.39
75	123.40	77.21	73.58	72.24	52.68	53.94	88.37	45.97	37.79	40.91	67.66
78	122.17	76.77	72.79	70.78	53.52	54.05	87.91	46.07	37.73	40.12	67.72
81	122.96	76.64	72.54	71.03	52.92	54.09	88.83	46.03	37.29	40.56	68.54
84	124.53	77.30	72.33	70.86	52.91	53.95	89.25	46.10	37.67	39.80	67.59
87	123.28	75.99	73.80	72.37	53.11	54.21	88.48	46.11	37.18	40.35	67.75
90	123.56	76.72	72.50	70.39	53.78	54.00	88.15	46.15	37.49	39.66	68.47
93	123.64	76.48	72.10	70.53	53.02	53.83	88.62	46.04	37.66	40.31	67.65
96	124.13	76.35	72.62	70.88	53.59	53.91	87.49	45.90	37.50	41.07	70.26
99	123.51	75.81	72.48	71.03	52.63	53.85	87.75	45.49	37.98	40.49	71.50
102	123.65	76.12	72.62	70.65	52.63	53.71	88.68	45.81	37.28	40.45	69.33
105	123.34	76.19	72.03	70.09	52.76	54.28	88.45	46.01	37.46	40.06	69.15
108	123.40	76.14	72.85	71.44	51.94	53.75	89.03	45.79	37.86	40.51	70.52
111	122.70	76.26	72.06	71.02	52.63	54.10	89.25	45.52	37.58	40.45	69.40
114	123.29	75.77	71.90	70.64	52.48	54.35	89.18	45.69	37.21	39.90	68.82
117	123.30	76.02	71.60	70.41	52.32	54.17	89.08	45.48	37.68	40.15	69.55

Table B.5C1. Continued.

Time (sec)	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21	Cell 22
0	33.67	95.83	75.68	86.71	129.81	126.61	35.13	45.02	61.33	34.72	47.01
3	35.60	94.23	74.58	87.21	131.44	127.60	36.50	45.02	60.54	35.12	47.43
6	35.88	94.19	74.68	86.04	132.31	128.19	38.42	44.04	61.28	35.07	47.80
9	36.43	93.48	73.89	85.95	131.89	128.84	37.89	44.74	60.27	34.89	48.40
12	36.68	93.39	73.98	85.50	133.05	128.13	39.24	45.21	60.14	35.21	48.48
15	38.03	93.48	73.84	85.68	132.22	127.56	38.93	44.39	61.25	34.80	47.61
18	37.29	93.04	73.25	85.14	131.25	127.16	38.20	44.56	60.00	34.43	47.85
21	37.10	93.34	73.88	86.00	131.33	127.91	37.93	44.84	59.93	34.79	48.54
24	36.35	93.22	73.38	86.01	130.72	127.16	37.56	44.20	60.24	34.42	48.72
27	35.77	93.16	73.27	85.78	131.73	128.40	37.79	43.55	60.32	34.99	48.14
30	37.79	92.39	73.38	85.28	131.64	128.18	38.58	44.35	60.46	34.63	48.95
33	37.47	92.77	73.45	87.29	132.39	129.24	39.63	44.13	60.98	34.73	49.21
36	35.37	93.37	72.93	83.68	131.13	127.14	39.51	43.40	60.00	34.65	47.83
39	34.51	94.15	73.20	83.11	129.17	126.34	36.83	42.96	59.89	34.07	45.98
42	33.41	94.36	72.87	83.36	127.78	124.47	35.61	42.98	59.69	33.69	46.76
45	33.92	93.61	73.16	82.33	126.81	124.41	35.29	43.47	60.65	33.71	47.07
48	34.29	92.90	73.39	81.32	128.48	125.81	36.52	43.22	60.04	34.02	46.57
51	36.49	92.70	73.21	83.30	129.07	125.59	37.54	42.54	61.31	34.00	47.11
54	34.48	91.77	73.21	83.64	127.96	126.07	37.40	42.85	60.35	33.97	45.53
57	34.39	92.53	72.73	84.75	125.73	123.66	34.97	42.30	60.01	33.84	44.69
60	33.24	92.59	72.69	85.99	123.77	121.52	34.80	42.84	59.78	33.88	45.19
63	34.04	93.31	72.63	87.90	124.96	122.47	35.32	43.02	58.63	34.10	45.08
66	33.22	93.17	72.60	88.81	125.77	123.45	35.31	42.71	58.39	34.10	44.82
69	34.83	92.60	72.86	87.86	127.64	123.70	36.95	42.71	59.61	33.60	45.85
72	35.74	92.06	72.54	86.21	127.56	123.15	37.44	42.95	59.50	33.79	45.37
75	34.59	92.11	72.48	78.77	127.06	122.97	36.38	41.76	58.69	33.27	44.58
78	33.51	92.87	72.59	71.66	126.19	122.33	35.84	41.54	58.76	33.48	44.71
81	33.00	92.84	72.58	65.43	125.13	120.97	35.60	41.55	58.25	33.27	44.89
84	31.83	93.32	72.58	56.75	125.06	122.54	35.02	41.29	58.72	33.01	44.19
87	31.23	92.96	72.67	50.33	124.83	121.04	34.23	41.52	58.80	33.06	43.40
90	33.29	92.98	72.20	46.30	125.63	123.13	35.11	41.02	59.49	33.36	44.70
93	33.36	91.83	72.62	46.22	125.86	121.33	35.63	41.22	59.59	33.78	44.74
96	36.86	90.89	72.28	45.75	127.89	124.91	37.06	42.95	60.89	33.80	47.05
99	35.49	91.90	72.45	45.54	129.41	127.17	39.20	41.95	60.20	33.45	46.24
102	34.08	91.85	72.26	46.00	128.41	124.98	37.87	41.91	59.19	33.10	45.05
105	35.07	91.01	71.91	46.15	127.07	123.85	36.78	42.69	59.85	33.57	45.13
108	35.47	90.27	72.12	46.58	127.48	124.67	37.56	42.27	59.43	33.58	47.52
111	35.85	90.50	72.24	46.53	127.62	125.88	38.54	42.27	59.37	33.37	46.26
114	34.63	90.73	71.86	46.56	126.99	124.56	37.67	41.48	59.13	32.98	44.71
117	36.49	90.53	71.67	46.60	126.29	125.21	37.51	42.16	58.71	33.19	45.99

Table B.5C1. Continued.

Time (sec)	Cell 23	Cell 24	Cell 25	Cell 26	Cell 27	Cell 28	Cell 29	Cell 30	Cell 31	Cell 32	Cell 33
0	31.84	55.61	72.68	54.83	116.85	149.98	67.07	56.11	145.31	53.29	49.71
3	33.12	56.47	73.15	55.21	117.13	149.98	69.35	57.27	146.27	56.44	49.65
6	32.87	55.07	74.40	54.41	117.46	149.82	65.79	56.19	145.38	53.47	49.45
9	33.29	55.69	74.51	54.44	115.82	149.23	67.05	55.51	145.03	52.33	49.54
12	33.77	56.01	75.15	53.78	114.87	149.12	64.97	55.45	144.05	49.03	49.30
15	33.15	55.17	73.03	53.91	115.03	148.86	64.63	54.94	142.21	47.45	49.49
18	33.26	54.63	73.48	54.03	114.88	147.29	66.20	56.06	142.30	47.92	49.19
21	33.25	54.79	75.84	54.55	111.88	146.68	64.49	55.13	141.67	45.81	49.35
24	32.52	55.03	75.69	53.55	112.46	145.66	65.37	55.71	140.65	46.01	49.23
27	33.04	55.76	74.20	53.37	111.96	145.68	66.39	56.10	141.30	47.12	48.56
30	33.62	55.60	73.84	53.75	110.35	145.76	65.91	55.03	141.12	48.24	48.52
33	33.13	55.21	74.47	52.10	110.90	146.21	66.67	55.07	140.81	45.34	48.26
36	32.31	54.75	74.27	52.74	110.71	148.08	66.53	54.86	140.71	46.03	48.61
39	31.26	54.21	74.81	52.46	109.51	147.05	62.09	54.95	140.57	40.92	48.63
42	30.91	54.93	74.64	52.76	107.58	145.72	59.41	52.95	140.04	35.80	49.14
45	30.99	54.59	73.25	52.80	106.40	146.23	58.10	52.82	138.39	33.58	48.85
48	31.69	54.29	12.09	10.86	12.25	12.25	18.72	13.61	12.38	11.88	49.11
51	31.22	55.46	11.90	11.04	12.59	12.63	19.13	17.34	12.98	12.09	62.07
54	30.58	54.90	12.34	11.02	12.76	12.65	22.97	27.05	13.41	12.44	63.09
57	30.36	53.84	12.91	11.12	13.04	13.15	26.82	42.81	13.97	12.79	61.26
60	30.62	54.93	12.89	11.38	12.95	13.21	32.43	59.20	14.20	13.43	60.63
63	30.52	54.65	12.78	11.56	13.03	13.08	33.30	63.58	14.37	13.46	59.50
66	30.77	54.85	12.53	11.69	12.92	13.09	36.24	70.61	14.50	13.65	58.72
69	31.03	54.88	12.78	11.84	12.87	13.13	38.93	76.98	14.74	13.64	57.08
72	31.19	54.48	12.83	11.62	12.69	13.04	38.65	77.73	14.66	13.85	56.43
75	30.73	54.66	12.77	11.66	12.91	13.14	40.96	82.71	15.12	13.94	54.91
78	30.40	54.66	12.79	11.70	12.97	13.14	43.31	85.56	15.02	14.05	54.03
81	30.67	54.48	12.57	11.83	12.80	13.13	44.43	88.52	15.29	13.96	53.77
84	29.95	55.06	12.77	11.89	12.82	13.17	43.88	88.28	15.36	14.27	52.08
87	29.19	54.09	12.74	11.84	12.99	13.21	42.50	85.91	15.20	14.14	51.12
90	30.28	54.64	12.74	11.71	12.98	13.29	42.43	88.63	15.29	14.17	50.56
93	30.62	53.91	12.71	11.83	12.76	13.16	44.04	90.43	15.46	14.15	50.56
96	31.96	55.79	12.73	11.73	13.00	13.07	45.97	93.17	15.93	14.39	50.02
99	31.95	55.75	12.73	11.80	12.94	13.17	47.19	94.33	15.93	14.66	49.67
102	30.81	54.59	12.63	11.84	12.84	13.02	48.14	97.20	16.40	14.73	49.49
105	31.23	55.78	12.78	11.93	12.97	13.32	50.42	100.75	17.11	14.94	49.15
108	31.63	55.22	12.98	11.99	12.82	13.09	51.44	102.30	17.28	15.06	48.66
111	31.42	55.20	12.57	11.93	12.85	13.11	50.25	101.97	17.33	15.37	48.88
114	30.67	54.65	12.68	11.85	12.79	13.14	50.78	103.33	17.71	15.60	48.65
117	31.51	56.30	12.79	11.71	12.82	13.08	50.20	103.89	18.24	15.43	48.88
120			12.75	11.97	12.86	13.21	52.23	107.17	19.48	16.06	48.81
123			12.73	11.99	12.94	12.96	55.13	110.99	22.19	16.53	48.66
126			12.87	12.02	12.76	13.08	55.26	110.92	22.02	16.83	48.32
129			12.70	11.96	12.86	13.04	55.67	110.17	22.25	16.82	47.93
132			12.74	11.78	12.87	13.10	55.77	110.86	22.00	16.81	47.97
135			12.66	11.95	12.79	13.04	57.83	113.36	24.43	17.85	47.39

Table B.5C1. Continued.

Time (sec)	Cell 34	Cell 35	Cell 36	Cell 37	Cell 38	Cell 39	Cell 41	Cell 42	Cell 43	Cell 43	Cell 44
0	58.27	44.20	71.25	63.23	56.14	43.91	61.53	120.35	59.52	101.51	170.17
3	59.71	46.69	77.15	64.52	56.14	44.13	62.72	117.99	61.12	102.98	171.29
6	58.36	44.07	71.20	63.43	55.56	43.62	61.25	116.13	59.31	101.40	162.27
9	57.93	44.52	71.81	63.12	55.84	44.00	60.47	117.52	57.70	97.42	159.48
12	56.79	41.57	66.04	61.53	55.33	43.57	58.19	116.31	56.92	93.47	152.93
15	57.43	42.24	63.70	61.34	55.06	43.65	57.18	115.78	56.77	94.06	154.04
18	57.66	42.80	67.16	62.31	55.30	43.12	57.92	114.43	57.48	93.51	152.19
21	57.45	41.00	63.11	61.33	54.11	43.07	54.83	115.24	55.64	91.13	151.55
24	56.53	42.00	64.47	61.97	55.13	43.23	57.68	113.17	57.11	95.14	156.47
27	56.59	42.17	65.71	62.01	55.24	43.39	58.38	112.56	54.94	92.71	153.44
30	57.08	42.69	66.83	62.20	54.98	43.56	58.52	113.83	55.81	94.06	158.25
33	56.18	41.74	63.74	61.72	54.53	43.32	57.91	113.10	53.04	92.63	155.38
36	56.53	43.18	66.07	61.76	54.97	43.46	58.39	112.13	54.17	92.92	155.85
39	55.35	39.11	59.19	60.39	53.77	43.05	52.46	110.72	49.75	84.83	144.52
42	53.40	36.53	55.55	59.25	53.38	42.91	48.17	111.75	49.41	83.45	141.12
45	52.81	35.68	53.98	58.92	53.05	42.64	46.01	108.75	48.18	82.20	139.97
48	15.00	16.04	25.93	26.59	49.43	45.12	18.24	11.64	11.43	11.71	11.22
51	16.29	16.72	36.04	33.51	49.45	42.67	18.35	11.95	11.56	11.85	11.24
54	16.64	17.61	40.11	35.68	48.07	41.93	18.89	12.12	11.74	11.89	11.53
57	16.23	18.10	40.35	37.39	48.23	41.68	19.09	12.25	11.90	12.20	11.53
60	16.33	19.32	42.31	39.46	47.73	40.76	19.02	12.15	12.00	12.34	11.62
63	16.08	20.07	42.77	40.55	47.78	40.92	20.06	12.35	12.17	12.45	11.54
66	16.34	22.02	43.14	42.16	48.39	40.77	19.73	12.40	12.17	12.42	11.71
69	16.92	23.90	42.79	44.66	48.03	40.91	20.48	12.59	12.28	12.40	11.77
72	16.62	23.68	41.88	43.79	47.75	40.70	20.19	12.50	12.24	12.43	11.89
75	16.67	25.22	40.97	44.68	47.92	40.20	20.28	12.56	12.17	12.52	11.69
78	16.83	25.78	39.20	45.72	47.97	41.21	20.71	12.67	12.21	12.44	12.06
81	16.87	27.56	39.45	46.41	48.12	40.92	20.90	12.63	12.44	12.35	11.91
84	16.51	25.91	39.46	44.84	47.42	40.78	20.12	12.77	12.22	12.55	12.10
87	15.90	24.46	37.87	43.71	47.02	41.02	19.25	12.66	12.44	12.63	12.15
90	15.77	24.39	38.88	43.46	47.24	41.26	19.36	12.78	12.31	12.47	12.00
93	15.83	25.58	40.15	43.56	47.09	41.09	19.75	12.88	12.27	12.70	11.99
96	15.70	26.81	39.22	44.65	47.73	41.28	20.15	12.76	12.37	12.51	12.07
99	15.84	26.85	38.64	44.85	47.26	41.39	19.53	12.69	12.45	12.67	11.94
102	16.19	28.70	38.19	46.12	48.16	41.16	20.23	12.77	12.49	12.64	11.91
105	16.49	29.62	38.15	46.45	48.24	41.14	20.38	12.76	12.53	12.69	12.12
108	16.10	29.57	36.98	46.10	47.90	41.53	19.93	12.82	12.35	12.66	12.06
111	15.92	28.38	36.91	45.15	47.78	41.54	19.72	12.83	12.62	12.75	11.92
114	16.02	28.70	37.71	45.92	48.20	41.35	19.59	12.71	12.52	12.66	12.11
117	15.68	28.74	38.26	44.89	47.55	41.46	19.32	12.95	12.50	12.72	12.18
120	15.91	31.60	38.29	46.59	48.50	41.41	20.24	12.96	12.43	12.76	12.28
123	17.22	34.10	37.57	48.54	48.65	41.50	22.16	12.95	12.58	12.94	12.21
126	16.49	33.40	37.26	48.10	48.50	41.85	21.55	12.91	12.47	12.83	12.13
129	16.23	33.23	37.22	47.35	48.66	41.58	20.93	12.92	12.44	12.79	12.27
132	15.97	32.58	36.96	47.06	48.68	41.88	20.46	12.91	12.50	12.67	12.16
135	16.41	34.27	36.49	48.73	48.59	41.58	23.25	12.72	12.30	12.73	12.20

Table B.5C1. Continued.

Time (sec)	Cell 45	Cell 46	Cell 47
0	125.26	171.60	168.00
3	123.24	168.94	165.46
6	124.01	169.40	166.32
9	123.52	165.32	167.61
12	124.02	163.67	167.94
15	123.13	167.22	166.20
18	123.72	167.73	167.31
21	123.15	164.11	167.13
24	122.86	166.42	165.91
27	122.68	163.54	166.88
30	122.27	164.01	165.28
33	123.15	165.03	166.82
36	123.25	163.85	166.76
39	123.57	163.53	166.66
42	125.65	167.36	172.17
45	125.27	164.79	171.89
48	128.65	169.22	173.36
51	125.11	161.03	170.92
54	122.95	158.49	165.87
57	121.88	158.78	163.65
60	119.70	154.76	159.85
63	118.88	152.83	158.25
66	117.38	151.84	156.25
69	116.77	152.97	154.73
72	116.14	153.07	153.36
75	116.23	151.65	154.47
78	115.00	152.87	152.68
81	115.20	151.14	151.47
84	116.75	150.62	154.66
87	117.41	148.84	157.21
90	118.16	154.12	156.62
93	117.32	152.24	156.61
96	117.60	153.78	157.70
99	117.19	151.88	155.87
102	116.33	154.14	156.17
105	116.48	155.20	153.63
108	117.38	154.02	156.70
111	117.70	155.06	155.76
114	118.09	158.54	157.03
117	117.03	156.51	155.16
120	115.63	153.38	153.59
123	114.71	156.92	151.26
126	113.50	153.11	149.94
129	114.06	153.78	150.37
132	114.08	152.72	152.44
135	111.22	152.83	145.47

Table B.5C2. Calcium Dynamics data for differentiating Day 8 SH-SY5Y cells cultured in 3-D collagen hydrogel after addition of 25 µM Bay K 8644. Data was used to generate Table 2.

Time (sec)	Cell 1	Cell 2	Cell 3	Cell 4	Cell 5	Cell 6	Cell 7	Cell 8	Cell 9	Cell 10	Cell 11
0	99.71	59.51	60.21	59.69	54.17	56.11	81.15	40.76	31.46	33.73	68.03
3	98.47	60.11	59.76	59.77	54.04	56.39	80.86	40.89	31.42	32.68	68.54
6	97.95	59.87	59.72	58.31	54.15	56.12	81.28	40.40	31.37	32.31	66.11
9	97.95	59.54	58.97	58.10	53.41	56.20	80.59	40.11	31.02	32.69	66.88
12	98.45	59.42	58.44	57.95	53.59	56.46	80.86	40.68	30.55	32.52	67.33
15	98.33	58.93	58.25	57.60	53.20	56.94	80.64	40.16	30.76	32.38	63.86
18	98.50	59.21	57.63	57.27	52.97	55.67	80.79	40.56	31.11	32.08	65.47
21	98.56	58.78	58.15	57.47	52.90	55.64	80.54	40.63	31.25	33.20	68.78
24	98.39	59.54	58.05	58.20	52.87	55.14	80.38	40.53	31.28	33.51	69.18
27	98.29	59.38	57.68	58.32	54.52	55.10	79.45	40.43	31.18	32.45	70.35
30	98.02	58.79	57.94	58.21	53.17	54.91	79.50	40.36	31.14	32.70	72.29
33	98.74	59.43	57.50	58.77	53.39	54.51	79.95	40.35	31.68	33.27	74.52
36	98.15	58.96	57.98	58.44	53.83	54.73	79.80	40.49	31.67	33.34	75.16
39	97.96	59.00	58.15	58.06	53.55	54.25	80.27	40.26	31.11	33.15	72.42
42	98.45	59.05	57.95	58.10	53.88	54.06	80.51	40.32	30.86	33.45	71.39
45	98.33	58.72	57.14	57.32	53.80	54.15	80.69	40.05	30.74	31.71	68.02
48	98.29	58.69	57.54	58.00	53.75	54.41	80.12	40.27	30.73	31.89	68.57
51	98.41	58.70	57.22	56.63	53.61	54.27	80.42	39.90	30.58	32.22	68.33
54	98.28	58.44	57.17	56.68	53.94	54.01	80.35	39.91	30.66	32.49	69.60
57	98.20	58.37	57.00	57.53	53.72	53.80	80.00	39.87	30.58	32.61	69.75
60	97.77	58.86	57.34	56.80	53.33	53.48	79.95	39.57	30.78	32.63	66.69
63	97.16	58.11	55.84	56.12	53.53	54.04	79.35	39.57	30.54	31.67	66.63
66	97.90	58.23	56.47	56.54	53.74	53.32	79.53	39.90	30.50	31.85	67.00
69	98.47	58.37	56.22	56.97	54.47	53.19	79.12	39.77	30.74	32.44	69.77
72	98.31	58.45	56.18	56.74	54.30	52.79	80.01	39.97	30.93	32.92	71.40
75	97.15	57.70	56.77	57.33	54.63	53.83	79.28	40.07	30.95	33.11	70.29
78	96.98	57.96	55.47	56.65	53.86	53.25	79.37	39.51	30.58	32.63	68.11
81	96.68	58.28	54.81	56.44	54.07	53.22	78.35	39.66	30.38	31.84	70.07
84	97.15	57.76	55.07	56.09	53.86	52.95	79.07	39.51	30.76	32.66	69.50
87	96.76	58.17	55.50	56.83	54.35	52.94	79.56	39.47	30.31	33.12	70.62
90	97.02	58.21	55.35	56.05	54.02	52.66	79.71	39.32	30.00	33.05	71.54
93	96.53	57.15	54.89	56.23	53.88	52.83	78.52	38.96	30.35	32.22	69.26
96	96.11	57.45	53.48	56.16	53.68	52.60	78.22	38.71	30.11	31.94	66.73
99	96.21	56.58	55.20	56.44	53.87	52.66	78.41	38.88	29.97	32.36	68.35
102	95.82	57.02	54.10	55.44	53.80	52.58	78.68	38.87	30.10	32.13	66.91
105	95.65	56.40	53.93	54.69	53.47	52.75	78.24	38.79	29.81	32.26	66.82
108	95.03	56.81	53.53	55.58	53.62	52.36	78.29	38.36	29.53	31.96	67.27
111	95.30	56.55	53.55	55.99	53.32	52.37	78.47	38.91	29.46	32.44	68.75
114	95.24	56.99	53.73	55.51	53.37	51.43	78.07	38.91	29.91	33.58	71.41
117	95.56	55.94	53.87	55.26	53.71	51.89	78.05	38.65	29.43	31.73	67.99

Table B.5C2. Continued.

Time (sec)	Cell 12	Cell 13	Cell 14	Cell 15	Cell 16	Cell 17	Cell 18	Cell 19	Cell 20	Cell 21	Cell 22
0	26.89	75.06	61.23	15.20	86.20	93.39	26.06	34.53	47.18	27.57	31.78
3	27.19	75.49	61.54	15.45	85.68	93.29	25.59	34.43	47.01	27.70	31.92
6	26.32	75.55	61.33	15.15	86.84	93.10	26.16	34.49	46.14	27.29	31.12
9	25.64	75.21	61.32	15.27	82.78	90.28	24.32	34.43	46.18	27.27	30.68
12	26.20	74.56	60.95	15.18	84.44	92.02	25.23	34.18	46.09	27.44	30.81
15	25.06	75.01	61.28	15.40	80.72	88.34	23.64	33.99	44.94	26.54	30.04
18	25.92	74.98	61.29	15.26	82.43	90.30	24.26	34.89	45.31	26.95	31.83
21	27.56	74.45	60.71	15.27	85.75	93.10	25.47	35.29	46.14	27.50	32.21
24	28.87	73.92	60.56	15.18	86.69	94.56	26.55	34.70	46.51	27.32	32.43
27	28.64	74.08	60.30	15.18	87.83	94.24	26.50	35.39	46.83	27.61	33.63
30	29.68	73.18	60.22	15.30	87.96	95.86	27.29	35.02	46.27	28.01	34.01
33	31.30	72.49	60.09	15.19	93.14	100.73	30.71	36.25	46.45	28.07	35.16
36	31.62	72.49	60.14	15.33	92.41	100.14	29.92	35.78	46.05	28.46	34.13
39	29.69	73.14	60.01	15.32	89.77	97.25	28.31	35.32	46.77	27.69	33.55
42	29.97	73.62	60.59	15.51	89.05	96.09	27.74	33.51	45.75	27.40	32.71
45	28.08	74.18	60.31	15.25	85.41	93.25	26.13	33.96	45.10	27.15	31.67
48	25.99	74.07	61.42	15.45	83.98	91.33	25.35	33.58	45.55	27.00	30.95
51	26.48	74.24	60.82	15.30	84.48	91.44	25.14	33.79	45.04	26.87	31.22
54	27.53	74.22	60.74	15.26	84.68	91.60	25.38	34.07	44.81	27.42	32.31
57	28.28	74.14	60.71	15.47	84.96	93.23	26.06	34.30	45.62	27.28	32.45
60	25.56	73.57	60.45	15.09	85.12	92.23	25.94	33.27	43.58	26.62	31.05
63	26.37	73.64	60.48	15.26	81.09	90.21	24.49	32.69	44.22	26.58	31.61
66	26.64	73.90	60.49	15.27	83.76	91.01	25.00	33.71	44.52	26.84	32.37
69	27.82	73.38	60.40	15.21	85.32	93.77	25.98	34.49	44.81	27.41	32.94
72	30.05	72.68	59.60	15.31	87.35	93.64	27.03	34.38	45.05	27.37	33.81
75	28.50	73.09	59.62	15.21	87.20	94.56	27.36	34.24	44.72	26.85	32.41
78	27.37	73.36	59.52	15.25	85.42	94.42	25.93	34.43	44.81	26.89	32.63
81	28.29	72.83	59.66	14.96	85.58	93.50	26.54	34.84	44.51	26.85	32.24
84	28.64	72.87	59.36	15.05	84.70	92.39	25.96	34.40	44.56	27.09	32.91
87	30.27	72.85	59.42	15.20	87.05	94.20	27.51	34.91	45.05	27.21	32.87
90	29.94	72.33	59.03	15.19	87.63	94.65	27.80	34.37	44.83	26.97	32.16
93	27.88	72.27	58.79	15.08	85.41	92.47	26.77	34.02	43.72	27.05	31.83
96	27.07	72.60	59.07	15.02	83.28	90.07	25.42	33.04	43.90	26.83	32.16
99	27.21	72.19	58.79	15.07	85.23	91.86	26.42	33.59	43.05	26.58	30.73
102	26.99	72.04	58.73	15.16	82.49	90.23	25.49	33.46	43.41	26.66	30.87
105	26.46	72.01	58.79	15.20	82.21	89.31	25.16	33.09	42.81	26.40	30.55
108	28.10	71.63	58.73	15.17	82.91	89.17	25.36	33.77	43.63	26.73	30.77
111	27.97	71.13	58.56	15.05	83.61	90.59	25.67	33.90	44.14	26.60	31.88
114	30.48	70.58	58.06	14.98	87.18	94.59	27.85	34.86	44.27	26.79	33.34
117	27.64	71.25	58.38	14.91	85.36	92.57	27.12	33.21	42.91	25.86	29.50

Table B.5C2. Continued.

Time (sec)	Cell 23	Cell 24	Cell 25	Cell 26	Cell 27	Cell 28	Cell 29	Cell 30	Cell 31	Cell 32	Cell 33
0	22.38	52.29	43.32	79.51	12.37	26.07	30.65	51.82	59.07	29.69	60.33
3	23.12	52.52	42.82	78.66	12.37	26.26	30.21	52.16	58.80	29.23	60.07
6	22.12	51.82	42.17	78.12	12.16	25.57	30.04	52.18	59.30	29.42	60.35
9	22.43	51.31	41.68	77.54	12.48	24.91	30.01	52.26	59.24	29.58	60.59
12	21.90	52.58	41.19	76.43	12.51	24.46	29.73	51.95	59.32	29.51	60.01
15	21.36	51.46	42.50	77.84	12.25	25.25	30.06	51.83	58.89	29.22	59.90
18	22.17	51.76	41.73	77.79	12.22	25.38	30.22	51.56	58.79	29.05	59.90
21	23.52	52.71	41.97	77.78	12.21	24.97	29.95	51.95	59.36	29.28	60.19
24	23.27	51.40	41.29	76.86	12.21	24.60	29.66	51.81	58.83	29.15	60.08
27	23.49	51.80	40.47	76.20	12.24	23.99	30.03	51.77	59.16	29.37	60.15
30	24.42	52.41	39.36	75.05	12.21	23.26	29.73	51.85	59.06	29.19	60.28
33	25.25	53.04	14.22	13.11	12.31	29.07	28.99	52.05	59.58	26.55	22.18
36	25.40	52.72	13.36	14.49	12.44	12.71	28.65	49.06	60.03	23.30	51.44
39	23.97	52.82	13.01	14.45	12.12	12.64	28.69	48.39	60.60	22.38	51.49
42	23.21	52.42	12.92	14.09	12.18	12.52	28.52	48.13	60.62	21.32	50.21
45	22.43	52.29	12.96	13.85	12.24	12.52	28.29	47.59	60.66	20.50	49.12
48	21.87	52.29	12.86	13.87	12.46	12.47	28.17	47.18	60.83	20.48	49.43
51	21.71	51.87	12.87	13.54	12.51	12.53	28.22	47.09	61.14	20.14	46.57
54	22.36	51.92	12.82	13.55	12.40	12.52	27.81	46.84	61.44	19.79	42.13
57	22.58	52.11	12.76	13.48	12.17	12.51	27.94	46.66	61.35	19.42	42.67
60	21.55	52.42	12.91	13.43	12.31	12.56	27.58	46.42	61.19	19.55	42.49
63	21.86	51.05	12.82	13.49	12.32	12.48	27.60	46.21	61.31	19.47	43.11
66	22.33	51.96	12.85	13.48	12.18	12.54	27.61	46.09	60.88	19.37	42.73
69	23.15	52.46	12.84	13.40	12.51	12.49	27.03	46.04	61.21	19.09	41.05
72	24.00	52.75	12.80	13.32	12.28	12.51	27.62	45.97	60.51	19.20	41.59
75	23.10	52.21	12.84	13.35	12.27	12.43	26.87	45.90	60.82	19.35	41.43
78	22.87	52.78	12.86	13.27	12.27	12.46	26.76	45.90	61.28	18.97	39.09
81	23.34	53.11	12.80	13.23	12.38	12.39	26.25	45.51	61.49	18.53	37.33
84	23.74	52.89	12.78	13.32	12.12	12.49	25.84	44.99	61.22	18.22	35.38
87	23.67	52.54	12.78	13.07	12.52	12.42	25.69	44.52	61.60	18.00	33.45
90	23.48	51.15	12.64	13.16	12.26	12.46	25.28	44.42	61.50	17.83	31.27
93	22.56	52.33	12.77	13.09	12.20	12.43	24.81	44.03	61.66	17.71	30.67
96	22.74	52.26	12.79	13.13	12.28	12.45	25.19	44.02	61.43	17.54	31.51
99	22.22	51.72	12.71	13.00	12.14	12.54	25.10	43.75	61.66	17.42	30.48
102	22.38	51.89	12.74	13.02	12.46	12.55	25.45	43.32	61.66	17.34	30.52
105	22.05	51.61	12.64	13.01	12.35	12.66	24.91	43.30	61.86	17.27	29.05
108	22.59	51.46	12.79	12.93	12.41	12.42	24.69	42.80	61.92	16.93	27.93
111	23.29	52.85	12.67	13.02	12.33	12.45	24.48	42.73	61.91	16.96	26.71
114	23.97	52.54	12.75	12.92	12.29	12.47	24.61	42.39	62.06	16.75	26.72
117	21.65	52.08	12.77	13.00	12.47	12.48	24.44	42.34	61.86	16.53	26.52
120			12.65	12.80	12.27	12.45	25.23	42.20	62.24	16.70	28.69
123			12.89	12.92	12.58	12.50	25.28	41.93	62.36	16.50	28.43
126			12.74	12.92	12.29	12.45	24.78	41.74	62.56	16.55	27.00
129			12.75	13.00	12.45	12.53	24.23	41.58	62.69	16.33	26.02
132			12.62	12.94	12.46	12.54	23.82	41.33	62.82	16.26	24.92
135			12.81	12.90	12.40	12.57	23.77	41.17	62.63	16.28	25.13

Table B.5C2. Continued.

Time (sec)	Cell 34	Cell 35	Cell 36	Cell 37	Cell 38	Cell 39	Cell 41	Cell 42	Cell 43	Cell 43	Cell 44
0	24.58	66.23	50.38	47.64	41.94	35.41	31.37	39.03	27.52	38.43	12.25
3	25.11	66.39	51.42	47.31	42.59	35.80	32.04	39.11	27.37	38.48	12.35
6	25.65	66.27	53.99	47.28	42.24	35.78	32.07	38.14	27.87	38.87	12.39
9	25.69	65.81	54.58	47.17	42.56	35.72	32.14	38.00	28.19	39.01	12.13
12	26.45	66.39	55.45	47.33	42.44	35.70	32.75	37.23	28.67	37.23	12.27
15	24.54	65.42	50.67	47.58	41.83	35.57	31.44	38.48	27.60	39.12	12.12
18	25.02	65.96	52.58	47.21	41.74	35.41	32.37	38.72	27.54	37.43	12.16
21	25.41	66.01	53.53	47.03	41.86	35.64	31.91	38.12	27.93	37.64	12.20
24	25.54	65.21	54.97	47.51	42.19	35.33	31.65	38.11	27.69	37.81	12.20
27	26.13	65.55	56.94	46.86	42.93	35.67	32.39	37.38	28.32	38.36	12.14
30	26.67	65.89	57.44	47.01	43.22	36.09	32.63	36.85	28.88	37.64	12.42
33	14.12	62.43	52.11	48.54	41.45	33.80	32.95	42.25	28.51	38.51	12.39
36	13.36	44.43	50.22	48.43	40.99	33.99	32.42	42.34	26.94	36.85	12.23
39	13.17	37.58	51.98	48.24	41.19	33.87	32.14	41.29	27.74	37.59	12.26
42	13.31	33.60	52.65	47.94	41.28	33.54	32.62	41.60	28.01	38.13	12.28
45	13.39	32.88	50.98	48.05	41.49	33.71	32.33	41.34	27.77	37.35	12.11
48	13.53	32.41	51.10	48.15	41.16	33.50	32.40	42.16	27.06	37.05	12.11
51	13.45	32.01	53.03	48.13	40.95	33.57	32.45	41.61	27.35	36.20	12.26
54	13.27	30.71	54.71	47.96	41.50	33.21	33.15	40.82	28.28	37.39	12.08
57	13.42	30.87	52.31	48.10	41.78	32.90	32.49	41.24	28.12	37.51	12.30
60	13.52	31.11	52.39	47.92	41.72	33.27	32.69	41.18	27.49	37.10	12.22
63	13.62	30.61	52.37	47.91	41.39	33.21	32.20	40.87	27.60	37.38	12.18
66	13.52	30.63	51.81	47.74	41.24	33.24	31.88	40.85	27.59	36.93	12.11
69	13.59	29.92	52.58	47.84	41.75	33.44	32.78	41.04	27.88	36.27	12.12
72	13.70	30.67	50.47	47.93	41.05	33.34	31.89	41.34	27.71	37.66	12.40
75	13.70	30.79	51.61	48.00	41.01	33.35	32.61	41.51	26.94	37.02	12.25
78	13.56	30.13	52.42	47.88	41.51	33.22	32.15	41.28	27.72	37.16	12.28
81	13.57	29.24	55.25	48.10	42.61	32.93	33.33	40.13	27.80	36.31	12.46
84	13.53	28.39	55.15	47.70	42.50	33.53	33.19	39.33	28.35	35.16	12.50
87	13.56	28.08	56.26	47.66	42.88	33.35	33.13	39.16	28.29	34.55	12.11
90	13.45	27.68	57.29	47.61	42.65	33.23	33.16	38.35	28.51	35.56	12.35
93	13.50	28.43	56.14	47.55	42.73	33.29	33.32	38.38	28.82	35.58	12.35
96	13.65	28.28	55.11	47.80	42.48	33.63	33.30	38.38	28.38	36.11	12.45
99	13.82	28.66	53.03	47.95	41.97	33.38	33.33	38.95	27.84	36.97	12.10
102	13.73	28.86	51.89	47.81	41.72	33.16	32.64	39.38	27.83	36.08	12.33
105	13.73	28.08	54.26	47.62	42.50	33.49	32.70	38.46	27.58	37.01	12.30
108	13.70	28.02	53.91	47.44	42.35	33.61	33.15	38.95	28.13	37.19	12.22
111	13.82	28.13	54.43	47.50	42.75	33.43	32.70	38.32	27.84	36.76	12.37
114	13.90	28.10	53.27	47.44	42.19	33.30	33.51	38.55	27.86	36.50	12.16
117	13.87	28.47	51.53	47.57	42.22	33.38	33.65	38.79	27.66	37.43	12.25
120	14.45	29.07	47.73	47.69	40.63	33.32	32.32	40.12	26.83	37.74	12.27
123	14.44	28.81	47.32	47.88	40.35	33.65	32.15	40.57	26.53	38.18	12.10
126	14.29	28.80	48.84	47.98	40.66	33.11	32.41	40.37	26.63	39.40	12.32
129	14.29	28.40	49.97	47.84	41.51	33.14	32.79	39.57	27.33	39.14	12.32
132	14.20	28.55	50.53	48.17	41.45	33.10	32.69	39.44	27.09	37.93	12.15
135	14.63	28.71	47.05	48.06	40.95	33.33	32.44	39.49	26.98	40.15	12.46

Table B.5C2. Continued.

Time (sec)	Cell 45	Cell 46	Cell 47	Cell 48	Cell 49	Cell 50
0	12.97	12.76	13.24	13.16	53.66	77.71
3	12.86	12.71	13.64	13.25	52.78	77.83
6	13.12	12.72	13.51	13.41	55.08	78.22
9	13.16	12.71	13.44	13.10	54.57	78.99
12	13.08	12.54	13.28	13.36	54.16	78.19
15	13.11	12.55	13.27	13.18	53.21	77.91
18	12.97	12.50	13.35	13.23	53.11	78.01
21	12.86	12.59	13.44	13.15	54.10	76.87
24	13.18	12.64	13.29	13.05	53.76	78.29
27	12.95	12.75	13.20	12.87	54.03	78.80
30	13.18	12.43	13.19	13.19	54.95	79.23
33	12.40	12.50	12.69	12.60	13.08	15.67
36	12.41	12.43	12.76	12.88	47.03	69.62
39	12.17	12.49	12.78	12.95	25.99	61.46
42	12.06	12.48	12.80	12.97	18.80	60.82
45	12.16	12.44	12.82	13.10	15.29	60.45
48	12.33	12.28	12.79	12.78	14.11	59.69
51	12.18	12.54	12.75	12.84	14.08	61.70
54	12.22	12.44	12.77	12.62	14.07	63.07
57	12.25	12.40	12.77	12.99	13.82	62.36
60	12.44	12.57	12.74	12.83	13.72	60.79
63	12.40	12.45	12.59	12.88	13.39	61.33
66	12.28	12.36	12.89	12.67	13.69	62.08
69	12.31	12.31	12.52	13.16	13.46	61.80
72	12.39	12.44	12.70	13.28	13.61	60.15
75	12.16	12.50	12.92	13.00	13.38	61.56
78	12.20	12.35	12.79	12.70	13.76	61.72
81	12.35	12.33	12.61	13.22	13.42	62.85
84	12.34	12.22	12.65	12.96	13.30	61.75
87	12.27	12.56	12.56	12.75	13.25	62.96
90	12.17	12.24	12.55	13.23	13.40	63.90
93	12.13	12.35	12.64	13.05	13.30	64.13
96	12.50	12.36	12.80	13.00	13.17	62.89
99	12.26	12.48	12.63	12.97	13.36	62.90
102	12.21	12.44	12.84	12.78	13.44	62.57
105	12.28	12.40	12.68	12.90	13.52	63.36
108	12.34	12.45	12.68	12.80	13.24	64.59
111	12.27	12.45	12.59	12.88	13.06	65.01
114	12.30	12.59	12.64	12.76	13.15	63.63
117	12.37	12.34	12.70	12.66	13.25	64.26
120	12.27	12.46	12.50	13.21	13.27	62.85
123	12.41	12.45	12.59	12.88	13.42	63.49
126	12.49	12.53	12.39	12.78	13.19	63.34
129	12.50	12.45	12.56	13.05	13.47	62.98
132	12.20	12.46	12.84	12.74	13.21	64.41
135	12.51	12.57	12.88	13.26	13.22	63.39

Table C.1. Immunofluorescence data for L-Type channels in differentiating Days 2, 8, and 13 SH-SY5Y cells in 2-D monolayer. Data was used to generate figure 7.

Cell	Day 2	Day 8	Day 13
1	190.74	247.30	90.41
2	209.54	255.00	122.75
3	202.62	216.00	78.42
4	189.47	254.97	128.67
5	173.33	250.11	102.06
6	183.96	255.00	101.58
7	178.58	254.23	164.31
8	161.88	255.00	125.69
9	158.20	255.00	145.07
10	215.12	251.13	79.93
11	189.14	254.10	139.71
12	219.23	254.78	96.09
13	219.03	255.00	226.08
14	134.50	255.00	158.05
15	182.44	255.00	204.05
16	153.22	255.00	127.32
17	145.97	235.78	120.91
18	138.29	231.14	120.10
19	157.94	255.00	103.67
20	159.54	253.84	118.72
21	164.93	254.57	157.23
22	162.54	255.00	158.32
23	169.35	254.05	155.73
24	146.98	255.00	142.75
25	120.45	193.80	122.34
26	112.05	156.42	175.80
27	101.90	217.84	165.90
28	114.16	201.71	224.60
29	105.88	127.37	125.05
30	124.08	138.39	86.95
31	97.57	134.50	104.32
32	98.26	172.43	70.51
33	100.47	222.44	77.16
34	104.05	232.24	99.55
35	126.03	81.86	141.57
36	98.42	200.41	46.14
37	92.64	200.33	124.38
38	42.72	238.14	79.72
39	82.56	164.33	89.63
40	64.46	135.23	84.97
41	87.69	191.65	74.05
42	90.53	195.67	134.11
43	116.95	229.82	115.71
44	248.67	172.11	46.14
45	213.63	132.76	113.18
46	54.21	148.57	90.50

Table C.1. Continued.

Cell	Day 2	Day 8	Day 13
47	198.29	144.59	97.79
48	182.74	163.07	114.42
49	194.02	112.13	137.77
50	245.10	156.44	107.52
51	245.46	136.96	165.42
52	216.99	135.28	67.88
53	179.48	197.23	154.94
54	181.90	180.67	137.52
55	246.36	228.36	137.61
56	205.64	80.74	88.64
57	199.35	121.67	83.82
58	221.95	197.68	91.90
59	206.19	200.32	75.86
60	238.17	202.84	79.87
61	225.27	186.03	90.88
62	215.36	164.24	67.88
63	255.00	191.56	247.45
64	250.14	186.61	234.89
65	176.29	157.94	132.53
66	219.50	104.57	244.02
67	238.12	179.95	243.85
68	193.00	179.68	116.50
69	222.96	183.36	118.53
70	207.62	143.46	128.51
71	203.80	255.00	118.43
72	54.21	255.00	128.69
73	54.21	255.00	122.84
74	224.97	200.86	98.19
75	190.73	233.95	111.37
76	180.49	255.00	115.15
77	192.15	144.00	121.63
78	137.30	206.23	100.90
79	176.59	254.89	164.68
80	115.84	243.06	175.06
81	164.73	207.98	99.50
82	158.56	249.00	100.15
83	177.67	255.00	132.68
84	120.01	94.30	155.35
85	177.41	228.95	84.58
86	161.04	255.00	111.19
87	172.99	217.23	154.03
88	54.21	223.43	199.24
89	144.34	181.95	123.00
90	180.96	180.23	101.32
91	96.77	176.52	108.92
92	73.69	222.34	121.96

Table C.1. Continued.

Cell	Day 2	Day 8	Day 13
93	154.21	194.83	109.36
94	151.41	206.99	92.40
95	141.35	254.54	220.58
96	85.10	159.41	111.68
97	90.93	255.00	94.83
98	92.57	255.00	54.19
99	122.27	255.00	128.52
100	129.37	199.16	94.72
101	154.92	130.06	163.08
102	123.21	228.30	131.82
103	132.52	255.00	142.36
104	104.12	255.00	100.08
105	102.58	255.00	92.43
106	116.67	204.62	104.96
107	231.85	118.38	212.94
108	213.99	255.00	228.46
109	194.43	206.57	189.32
110	181.84	242.83	203.13
111	247.23	251.46	218.13
112	234.46	169.27	229.51
113	233.78	254.56	238.48
114	214.35	218.87	176.50
115	200.28	236.06	215.46
116	227.93	225.60	156.85
117	244.78	113.35	176.02
118	50.97	115.99	106.39
119	178.77	204.85	84.61
120	218.37	216.90	81.73
121	197.75	202.14	109.26
122	180.27	218.09	71.46
123	242.70	215.77	94.76
124	236.96	182.14	136.58
125	162.39	169.57	98.21
126	180.54	223.09	91.69
127	184.75	202.21	50.47
128	241.71	179.07	101.77
129	50.97	246.63	81.97
130	229.50	234.15	108.59
131	209.74	229.90	106.33
132	184.70	239.91	106.72
133	163.17	223.37	116.21
134	125.97	249.64	117.34
135	160.39	255.00	161.45
136	99.505	255	93.91
137	70.89	254.51	83.28
138	145.08	255	50.47

Table C.1. Continued.

Cell	Day 2	Day 8	Day 13
139	153.36	255.00	185.09
140	164.57	255.00	246.93
141	140.06	255.00	119.80
142	141.56	255.00	116.46
143	139.69	255.00	118.90
144	152.76	255.00	50.47
145	137.25	255.00	90.62
146	139.85	255.00	88.57
147	141.96	255.00	83.35
148	138.25	255.00	142.75
149	93.45	255.00	107.83
150	113.45	255.00	100.79
151	127.56	126.39	70.63
152	157.91	208.55	123.55
153	92.91	243.79	155.38
154	122.90	229.25	58.83
155	127.42	255.00	142.86
156	50.97	215.71	102.58
157	109.84	210.00	
158	133.51	193.50	
159	133.42	217.62	
160	145.26	183.36	
161	85.49	183.16	
162	95.08	206.54	
163	83.72	202.43	
164	131.54	211.33	
165	72.48	190.54	
166	125.44	181.75	
167	127.29	178.64	
168	109.49	158.06	
169	135.46	202.38	
170	113.15	222.72	
171	129.42	94.13	
172	108.42	165.25	
173	107.26	153.53	
174		228.98	
175		141.63	
176		107.79	
177		167.63	
178		226.01	
179		178.12	
180		205.52	
181		205.33	
182		194.90	
183		204.25	
184		216.17	

Table C.1. Continued.

Cell	Day 2	Day 8	Day 13
185		182.43	
186		198.77	
187		79.14	
188		205.78	
189		116.25	
190		187.78	
191		172.52	
192		139.49	
193		169.08	
194		167.78	
195		114.33	
196		123.34	
197		162.97	
198		79.14	
199		169.32	
200		190.00	
201		112.30	
202		152.20	
203		81.58	
204		137.53	
205		193.82	
206		223.25	
207		187.32	
208		201.85	
209		217.10	
210		78.49	
211		179.26	
212		102.24	
213		149.84	
214		155.54	
215		219.16	
216		168.22	
217		208.49	
218		145.46	
219		210.22	
220		104.73	
221		119.84	
222		174.47	
223		202.45	
224		227.54	
225		103.08	
226		192.62	
227		170.63	
228		113.05	
229		179.54	
230		169.94	

Table C.1. Continued.

Cell	Day 2	Day 8	Day 13
231		195.53	
232		168.18	
233		147.30	
234		144.19	
235		88.99	
236		221.83	
237		218.34	
238		225.93	
239		140.41	
240		206.71	
241		252.50	
242		211.02	
243		142.08	
244		197.44	
245		207.88	
246		170.20	
247		163.51	
248		158.68	
249		113.81	
250		99.37	
251		127.67	
252		127.88	
253		198.81	
254		196.97	
255		94.21	
256		151.26	

Table C.2. Immunofluorescence data for L-Type channels in differentiating Days 2, 8, and 13 SH-SY5Y cells in 3-D collagen hydrogel. Data was used to generate figure 7.

Cell	Day 2	Day 8	Day 13
1	93.84	174.56	153.90
2	99.93	207.33	73.35
3	187.45	94.76	67.10
4	112.83	227.77	71.57
5	85.08	246.59	30.78
6	125.69	222.37	45.77
7	123.87	248.76	64.33
8	93.81	235.03	30.78
9	105.24	250.88	53.67
10	147.29	253.44	76.59
11	141.60	250.47	165.99
12	139.44	220.31	87.31
13	143.49	194.43	73.46
14	119.71	205.75	48.89
15	95.69	217.25	61.17
16	204.28	145.04	85.31
17	133.11	212.95	73.67
18	209.43	253.35	30.78
19	181.72	173.94	60.15
20	220.05	146.17	74.24
21	107.42	82.93	55.44
22	153.56	118.51	64.00
23	210.44	142.98	61.14
24	159.71	80.51	84.12
25	132.26	125.56	146.04
26	164.68	101.83	181.18
27	101.95	151.54	87.02
28	86.12	237.36	72.16
29	82.30	240.78	65.22
30	104.36	62.84	107.68
31	142.17	163.41	69.23
32	159.54	176.20	61.85
33	186.20	241.55	83.33
34	162.95	215.99	70.50
35	109.29	231.79	55.45
36	75.32	236.43	75.65
37	123.97	249.75	205.12
38	209.30	252.92	228.61
39	143.04	62.84	223.75
40	131.81	102.09	109.51
41	98.17	102.19	128.11
42	87.88	62.84	194.48
43	113.80	252.53	203.58
44	131.05	242.75	78.45
45	113.97	231.82	206.73
46	91.82	234.13	200.04

Table C.2. Continued.

Cell	Day 2	Day 8	Day 13
47	139.40	218.26	85.19
48	237.28	62.84	45.00
49	167.48	121.85	80.82
50	234.77	50.94	64.03
51	221.58	156.08	77.22
52	216.42	186.04	80.95
53	67.33	114.45	69.66
54	208.31	50.94	87.08
55	207.06	188.81	186.94
56	241.13	218.58	164.65
57	182.89	50.94	81.21
58	200.68	78.73	195.60
59	241.69	94.04	147.94
60	249.84	79.08	75.33
61	250.39	80.55	78.00
62	67.33	227.52	74.58
63	152.83	255.00	168.62
64	92.51	50.94	86.89
65	128.34	155.44	64.08
66	128.50	231.08	73.99
67	195.91	222.21	72.27
68	110.21	77.70	112.46
69	97.19	85.83	133.48
70	85.00	125.09	77.00
71	102.66	162.43	86.44
72	142.89	255.00	74.42
73	144.50	254.91	123.89
74	111.86	244.34	40.78
75	93.99	236.78	70.65
76	207.17	71.56	124.29
77	217.88	71.56	168.11
78	225.00	71.56	172.71
79	156.60	181.17	95.41
80	211.51	71.56	112.24
81	88.17	165.43	127.00
82	98.74	71.56	129.55
83	145.33	71.56	132.08
84	215.76	71.56	192.10
85	152.01	244.70	40.78
86	168.11	255.00	74.50
87	163.36	119.50	95.41
88	143.43	156.67	77.53
89	166.62	201.62	206.92
90	90.11	205.75	90.94
91	170.65	71.56	184.52
92	182.19	159.02	122.67

Table C.2. Continued.

Cell	Day 2	Day 8	Day 13
93	144.78	201.83	188.40
94	210.08	221.41	208.25
95	179.23	252.00	141.37
96	57.40	229.73	189.51
97	157.83	227.61	145.92
98	151.11	238.34	40.78
99	135.48	123.91	112.00
100	141.00	71.56	71.06
101	159.22	71.56	78.84
102	198.30	71.56	58.38
103	131.72	186.53	76.53
104	133.22	136.25	117.38
105	129.29	130.00	129.05
106	180.76	139.55	140.13
107	131.10	192.78	76.53
108	143.52	71.56	210.53
109	213.90	71.56	247.50
110	155.17	139.20	255.00
111	89.26	71.56	251.13
112	87.31	54.33	246.85
113	202.06	143.20	255.00
114	227.12	71.56	215.92
115	187.69	174.80	253.93
116	202.20	135.50	255.00
117	191.35	96.50	242.98
118	235.60	71.56	76.53
119	232.97	71.56	255.00
120	57.40	105.54	255.00
121	152.36	255.00	244.96
122	57.40	52.81	250.17
123	133.69	253.00	254.58
124	106.25	161.00	78.52
125	113.90	149.25	123.82
126	134.87	52.81	104.08
127	160.66	52.81	118.62
128	208.97	52.81	85.33
129	150.49	210.88	182.94
130	133.93	186.81	135.67
131	207.84	52.81	142.50
132	132.29	52.81	159.72
133	193.45	52.81	161.67
134	201.97	52.81	76.53
135	116.39	52.81	188.96
136	132.86	231.00	132.00
137	129.35	52.81	133.50
138	111.21	232.86	143.28

Table C.2. Continued.

Cell	Day 2	Day 8	Day 13
139	154.91	52.81	194.00
140	169.32	242.04	177.52
141	132.75	52.81	115.31
142	102.87	52.81	158.00
143	112.28	52.81	148.25
144	88.78	238.94	129.39
145	108.29	52.81	124.55
146	88.90	52.81	134.20
147	108.84	52.81	171.75
148	173.15	52.81	160.72
149	155.83		173.15
150	227.52		124.26
151	162.49		107.92
152	143.15		151.75
153	156.30		148.68
154	175.41		161.76
155	190.34		76.53
156	50.45		117.38
157	231.57		114.60
158	50.45		134.00
159	180.58		129.76
160	255.00		103.63
161	226.68		125.17
162	203.13		83.42
163	187.99		124.40
164	50.45		
165	146.78		
166	185.41		
167	194.54		
168	189.31		
169	214.88		
170	147.14		
171	179.54		
172	184.36		
173	198.61		
174	170.58		
175	164.60		
176	194.25		
177	143.73		
178	103.98		
179	96.53		
180	50.45		
181	165.48		
182	143.56		
183	215.10		
184	185.57		

Table C.2. Continued.

Cell	Day 2	Day 8	Day 13
185	121.21		
186	209.65		
187	188.34		
188	188.94		
189	220.19		
190	203.83		
191	184.31		
192	226.23		
193	161.67		
194	178.88		
195	123.59		
196	172.40		
197	183.19		
198	177.03		
199	95.00		
200	146.38		
201	78.98		
202	187.80		
203	89.83		
204	93.72		
205	85.89		
206	54.38		
207	151.96		
208	93.00		
209	117.43		
210	104.12		
211	92.59		
212	88.36		
213	110.83		
214	150.68		
215	119.41		
216	116.14		
217	133.82		
218	154.25		
219	152.42		
220	103.44		
221	131.75		
222	95.07		
223	79.67		
224	123.39		
225	95.63		
226	118.68		
227	100.13		
228	91.81		
229	79.60		
230	86.28		

Table C.2. Continued.

Cell	Day 2	Day 8	Day 13
231	70.60		
232	54.38		
233	54.38		
234	129.25		
235	202.19		
236	169.85		
237	116.65		
238	110.01		
239	140.82		

Table D.1. Immunofluorescence data for N-Type channels in differentiating Days 2, 8, and 13 SH-SY5Y cells in 2-D monolayer. Data was used to generated figure 8.

Cell	Day 2	Day 8	Day 13
1	114.18	92.97	171.92
2	91.00	110.84	58.50
3	60.71	90.60	42.65
4	37.00	80.00	72.25
5	64.23	102.00	22.84
6	51.56	95.28	84.00
7	53.73	57.68	93.58
8	21.46	57.23	102.33
9	48.72	67.50	46.43
10	62.83	100.71	72.46
11	68.00	83.70	63.78
12	72.08	28.11	40.67
13	48.58	66.06	22.84
14	33.67	51.09	33.65
15	128.87	75.67	78.00
16	121.21	28.11	43.17
17	21.33	52.95	67.02
18	93.40	76.67	53.69
19	89.50	91.14	37.16
20	21.33	28.11	52.56
21	31.49	28.11	57.04
22	40.58	60.67	46.88
23	53.56	68.67	83.07
24	38.86	54.13	58.33
25	33.58	54.65	28.13
26	21.33	27.50	66.38
27	64.53	27.50	110.06
28	47.43	54.50	77.30
29	38.94	133.17	103.33
30	75.26	63.50	104.58
31	56.09	79.92	135.33
32	66.47	92.00	58.48
33	19.08	116.77	72.75
34	51.38	113.25	83.00
35	19.08	27.50	109.25
36	75.00	77.12	28.13
37	67.00	102.70	76.25
38	48.86	27.50	58.17
39	116.67	93.24	121.77
40	55.17	73.50	92.00
41	75.53	27.50	28.13
42	34.67	38.40	28.13
43	66.25	56.86	38.25
44	75.43	40.74	28.13
45	22.08	79.38	28.13
46	37.17	54.97	73.50

Table D.1. Continued.

Cell	Day 2	Day 8	Day 13
47	46.88	53.80	28.13
48	87.00	79.50	51.50
49	22.08	91.71	115.75
50	99.69	71.12	29.45
51	43.62	76.70	29.45
52	51.40	86.28	29.45
53	60.18	66.75	129.48
54	52.98	52.20	29.45
55	60.63	25.81	71.08
56	53.63	51.50	109.50
57	30.05	57.80	60.50
58	37.02	25.81	173.90
59	52.33	41.40	29.45
60	35.70	54.04	111.88
61	63.94	87.54	60.16
62	40.27	27.50	29.45
63	14.80	94.61	29.45
64	16.88	179.50	100.23
65	15.19	81.13	48.00
66	13.90	27.50	107.25
67	17.20	158.25	29.45
68	17.60	67.67	42.70
69	18.40	69.38	66.19
70	17.38	27.50	60.10
71	12.64	109.31	29.45
72		84.57	56.12
73		57.27	107.83
74		27.50	106.96
75		27.50	99.06
76		27.50	90.40
77		38.91	28.27
78		38.71	85.76
79		69.50	76.79
80		27.50	84.60
81		32.15	85.82
82		45.13	82.92
83		38.50	86.38
84		39.45	88.73
85		36.92	28.27
86		27.50	28.27
87		47.25	85.75
88		27.50	68.40
89		34.33	28.27
90		37.50	72.84
91		27.50	28.27
92		46.00	73.15

Table D.1. Continued.

Cell	Day 2	Day 8	Day 13
93		137.54	83.93
94		79.13	83.18
95		59.78	59.63
96		74.31	28.27
97		101.94	56.00
98		30.23	28.27
99		75.13	66.00
100		142.15	69.03
101		64.50	92.08
102		122.68	120.50
103		180.00	66.59
104		76.40	28.27
105		79.84	52.89
106		52.99	36.21
107		86.84	62.80
108		36.84	244.72
109		30.23	148.32
110		30.23	123.18
111		76.21	112.94
112		78.92	41.52
113		75.17	170.27
114		69.83	100.66
115		45.18	147.00
116		39.63	102.50
117		50.50	148.96
118		47.83	206.41
119		76.39	29.98
120		72.93	110.12
121		58.87	160.00
122		89.67	29.98
123		91.43	140.51
124		60.38	147.52
125		30.23	29.98
126		43.43	44.06
127		142.55	49.38
128		73.48	29.98
129		67.50	29.98
130		53.54	92.31
131		49.00	29.98
132		60.14	29.98
133		87.42	45.50
134		25.77	125.56
135		25.77	36.21
136		45.00	61.27
137		47.38	83.36
138		25.77	143.40

Table D.1. Continued.

Cell	Day 2	Day 8	Day 13
139		45.19	121.38
140		25.77	36.21
141		23.00	90.98
142		49.71	113.21
143		25.77	130.00
144		25.77	84.65
145		91.74	101.00
146		25.77	175.63
147		25.77	36.21
148		34.80	130.53
149		28.83	123.25
150		25.77	85.46
151		52.39	128.03
152		92.58	99.42
153		25.77	36.21
154		25.77	36.21
155		36.64	136.15
156		59.21	52.77
157		25.77	91.55
158		101.17	164.02
159		100.00	166.27
160		29.42	85.38
161		29.42	157.82
162		29.42	87.53
163		29.42	65.49
164		29.42	132.14
165		36.00	129.64
166		163.00	90.61
167		51.60	36.21
168		87.90	207.39
169		79.31	128.00
170		29.42	121.33
171		29.42	147.21
172		73.00	36.21
173		43.50	36.21
174		29.42	77.00
175		114.00	36.21
176		95.00	82.17
177		75.35	56.03
178		119.54	91.35
179		96.55	116.93
180		70.71	100.08
181		104.64	31.83
182		93.08	31.83
183		29.42	54.56
184		29.42	56.80

Table D.1. Continued.

Cell	Day 2	Day 8	Day 13
185		139.20	104.80
186		54.40	93.54
187		29.42	31.83
188		63.00	110.50
189		130.08	31.83
190		54.33	124.09
191		29.42	158.40
192		49.27	31.83
193		29.42	98.33
194		29.42	31.83
195		103.67	31.83
196		29.42	59.17
197		46.10	99.00
198		29.42	46.67
199		34.79	31.83
200		53.50	60.67
201		29.42	123.83
202		29.42	31.83
203		119.61	142.17
204		58.26	92.26
205		29.42	50.75
206		38.00	90.88
207		127.09	87.46
208		108.75	57.56
209		53.92	42.71
210		110.27	47.34
211		117.94	84.33
212		96.29	44.14
213		100.17	52.40
214		83.15	91.86
215		30.16	28.68
216		43.81	31.83
217		36.69	31.83
218		39.84	43.29
219		63.03	57.33
220		36.00	26.81
221		39.83	89.17
222		51.25	151.95
223		74.20	26.81
224		39.83	26.81
225		104.80	50.40
226		30.16	77.24
227		64.40	78.00
228		30.16	49.67
229		44.80	26.81
230		43.00	79.94

Table D.1. Continued.

Cell	Day 2	Day 8	Day 13
231		112.49	26.81
232		82.67	60.79
233		68.66	26.81
234		92.46	48.00
235		59.54	38.88
236		181.40	26.81
237		31.93	37.10
238		36.00	52.12
239		66.47	98.00
240		82.62	26.81
241		86.85	26.81
242		80.65	26.81
243		51.88	26.81
244		51.58	69.00
245		31.93	59.78
246		115.88	68.08
247		61.40	26.81
248		31.93	26.81
249		52.00	26.81
250		73.70	
251		57.83	
252		31.93	
253		76.10	
254		39.50	
255		91.84	
256		58.00	
257		85.72	

Table D.2. Immunofluorescence data for N-Type channels in differentiating Days 2, 8, and 13 SH-SY5Y cells in 3-D collagen hydrogel. Data was used to generate figure 8.

Cell	Day 2	Day 8	Day 13
1	17.05	21.74	96.68
2	40.31	58.67	70.60
3	50.90	37.13	62.50
4	17.05	21.74	26.53
5	45.54	81.05	26.53
6	68.80	59.00	26.53
7	48.25	33.55	107.00
8	34.78	32.40	26.53
9	40.21	72.83	125.04
10	45.43	64.54	107.00
11	48.39	44.88	26.53
12	47.74	88.71	57.10
13	41.61	49.00	105.36
14	50.56	21.74	26.53
15	37.72	52.59	26.53
16	31.17	20.73	78.22
17	33.50	20.73	74.22
18	30.25	52.38	57.63
19	36.95	57.00	58.39
20	55.17	20.73	26.53
21	48.30	84.86	26.53
22	60.83	118.50	26.53
23	17.79	85.25	131.44
24	37.00	84.88	24.89
25	17.79	76.75	24.89
26	17.79	20.73	54.43
27	44.25	20.73	58.15
28	39.25	20.73	52.12
29	51.25	50.88	61.75
30	16.76	32.67	50.73
31	96.52	47.50	24.89
32	62.67	103.30	24.89
33	84.92	18.72	24.89
34	38.56	115.83	69.50
35	16.76	127.90	73.84
36	16.76	118.06	80.92
37	62.00	118.79	61.17
38	66.75	54.07	81.47
39	40.65	67.82	43.14
40	34.75	48.50	24.89
41	79.59	66.60	43.19
42	96.08	78.17	35.20
43	19.00	117.40	24.89
44	57.50	66.98	74.73
45	22.50	28.65	24.89
46	102.76	85.83	24.89

Table D.2. Continued.

Cell	Day 2	Day 8	Day 13
47	72.83	53.67	61.20
48	76.00	89.70	44.63
49	57.63	74.17	23.21
50	45.43	77.62	23.21
51	44.35	28.65	23.21
52	38.27	28.65	23.21
53	38.11	28.65	23.21
54	50.77	82.75	66.75
55	104.35	28.65	23.21
56	38.89	90.31	23.21
57	40.34	28.65	23.21
58	76.69	28.65	23.21
59	60.40	28.65	23.21
60	45.55	102.00	40.50
61	31.09	81.38	23.21
62	39.13	67.71	39.62
63	46.75	47.58	30.97
64	33.06	32.53	35.80
65	29.66	89.57	35.73
66	16.59	62.17	23.21
67	19.60	32.53	56.74
68	35.25	123.33	40.21
69	28.00	105.67	76.63
70	55.23	87.82	20.25
71	54.12	84.50	20.25
72	44.83	72.00	77.44
73	31.13	87.29	20.25
74	50.80	134.50	111.60
75	40.56	121.00	89.41
76	43.69	32.53	20.25
77		64.58	45.73
78		114.68	20.25
79		153.19	26.18
80		71.54	26.18
81		138.50	121.00
82		78.77	26.18
83		81.13	67.90
84		32.53	62.63
85		78.00	45.25
86		108.46	57.75
87		73.95	26.18
88		28.62	26.18
89		28.62	67.92
90		59.75	64.75
91		79.00	26.18
92		91.46	71.62

Table D.2. Continued.

Cell	Day 2	Day 8	Day 13
93		62.92	58.75
94		76.76	51.00
95		54.96	26.18
96		64.09	41.57
97		99.34	60.69
98		28.62	40.00
99		28.62	26.18
100		28.62	67.07
101		28.62	74.17
102		91.38	80.65
103		69.08	63.88
104		29.25	26.18
105		81.00	55.82
106		28.62	58.75
107		55.60	58.35
108		28.62	26.18
109		28.62	26.18
110		44.00	45.96
111		36.75	26.18
112		28.62	50.78
113		56.50	74.07
114		65.55	23.87
115		28.62	51.25
116		97.67	35.50
117		79.37	59.32
118		153.52	56.17
119		139.00	80.03
120		59.65	23.87
121		30.20	55.21
122		93.18	23.87
123		84.56	56.36
124		75.75	23.87
125		50.13	41.57
126		63.33	43.59
127		30.20	23.87
128		82.96	47.52
129		85.07	71.25
130		96.69	35.00
131		96.83	36.25
132		68.76	23.87
133		108.08	53.08
134		66.08	46.25
135		30.20	23.87
136		95.17	23.87
137		30.20	42.55
138		30.20	23.87

Table D.2. Continued.

Cell	Day 2	Day 8	Day 13
139		49.89	55.39
140		66.19	108.13
141		49.00	53.33
142		51.86	24.15
143		23.79	83.00
144		23.79	86.57
145		68.06	24.15
146		69.00	24.15
147		23.79	24.15
148		23.79	38.00
149		23.79	65.15
150		56.00	73.91
151		88.00	24.15
152		67.27	45.50
153		68.55	18.00
154		23.79	24.15
155		23.00	49.33
156		23.79	44.33
157		70.15	59.00
158		66.57	47.25
159		54.83	55.65
160		20.19	24.15
161		53.25	62.90
162		40.70	24.15
163		59.38	63.25
164		68.50	208.58
165		20.19	24.40
166		20.19	24.40
167			24.40
168			24.40
169			24.40
170			55.92
171			70.13
172			24.40
173			38.54
174			24.40
175			24.40
176			67.92
177			253.10
178			86.80
179			24.40
180			126.60
181			85.50
182			100.40
183			24.40
184			24.40

Table D.2. Continued.

Cell	Day 2	Day 8	Day 13
185			75.63
186			51.44
187			91.50
188			43.28
189			82.67
190			81.67
191			78.00
192			77.80
193			79.04
194			22.77
195			84.54
196			144.88
197			113.50
198			93.14
199			45.00
200			131.17
201			31.00
202			60.11
203			54.70
204			41.97
205			39.75
206			22.11
207			187.42
208			71.89
209			99.00
210			86.89
211			57.70
212			80.28
213			69.19
214			52.75
215			64.67
216			46.53
217			26.70
218			26.70
219			51.79
220			74.39
221			44.28
222			65.86
223			26.70
224			121.83
225			77.85
226			70.33
227			70.50
228			47.63
229			26.70
230			50.14

Table D.2. Continued.

Cell	Day 2	Day 8	Day 13
231			56.11
232			54.48
233			26.70
234			50.28
235			27.14
236			22.32
237			22.32
238			22.32
239			22.32
240			49.52
241			44.53
242			22.32
243			49.56
244			22.32
245			54.19
246			57.54
247			22.32
248			43.85
249			69.50
250			22.32
251			229.03
252			23.36
253			63.80
254			49.84
255			51.00
256			57.23
257			64.50
258			68.56
259			47.50
260			45.46
261			71.99
262			37.92
263			23.36
264			89.75
265			23.36
266			63.20
267			48.54