Appendices
Appendix A

Example of Page Setup and Text Arrangement
Example of Fonts and Line Spacing

Use Times New Roman with 1.5 Line Spacing

Font size 12 point, Normal style

Font size 12 point, Bold style

Font size 12 point, Italic style

Font size 14 point, Normal style

Font size 14 point, Bold style

Font size 14 point, Italic style
Example of Page Margin on Odd-Numbered Pages

Top margin A4

1.5”

0.5”

1”

(Page No.) 3

Left margin

1.5”

1”

Bottom margin A4

1”
Example of Page Margin on Even-Numbered Pages
Example of Indentation and Division between Headings and Sub-Headings
(Example 1)

Type 1

1. Heading
   1.1 Sub-Heading 1
     1.1.1 Sub-Heading 2
     1.1.2 Sub-Heading 2
        1.1.2.1 Sub-Heading 3
        (1) Sub-Heading 4
        (2) Sub-Heading 4
     1.1.2 Sub-Heading 3
     1.1.3 Sub-Heading 2
   1.2 Sub-Heading 1

2. Heading
   2.1 Sub-Heading 1
      2.2.1 Sub-Heading 2
         2.1.1.1 Sub-Heading 3
   2.2 Sub-Heading 1
   2.3 Sub-Heading 1

3. Heading
Example of Indentation and Division between Headings and Sub-Headings
(Example 2)

Type 2

1. Heading

<table>
<thead>
<tr>
<th>Indent</th>
<th>Sub-Heading</th>
<th>Indent</th>
<th>Sub-Heading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Sub-Heading 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1.3</td>
<td>Sub-Heading 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1.4</td>
<td>Sub-Heading 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1.4.1</td>
<td>Sub-Heading 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td>Sub-Heading 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>Sub-Heading 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1.4.2</td>
<td>Sub-Heading 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1.3</td>
<td>Sub-Heading 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>Sub-Heading 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Heading

<table>
<thead>
<tr>
<th>Sub-Heading</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
</tr>
<tr>
<td>2.2.1</td>
</tr>
<tr>
<td>2.1.1.1</td>
</tr>
<tr>
<td>2.2</td>
</tr>
<tr>
<td>2.3</td>
</tr>
</tbody>
</table>

3. Heading
Example of Indentation and Division between Headings and Sub-Headings
(Example 3)

Type 3

Heading 1 (No numbering)

****Indent………………………………………………………………………………………………………

*****1.1 Sub-Heading 1

******Indent………………………………………………………………………………………………………

1.1.5 Sub-Heading 2
1.1.6 Sub-Heading 2
  1.1.6.1 Sub-Heading 3
c. Sub-Heading 4
d. Sub-Heading 4
1.1.6.2 Sub-Heading 3
1.1.3 Sub-Heading 2
1.2 Sub-Heading 1

Heading 2

2.1 Sub-Heading 1
  2.2.1 Sub-Heading 2
    2.1.1.1 Sub-Heading 3
2.2 Sub-Heading 1
2.3 Sub-Heading 1

Heading 3
CHAPTER I
INTRODUCTION

1. **Rationale and Background** [Times New Roman 12 point bold]

   Acquired immunodeficiency syndrome (AIDS) is an infectious disease caused by human immunodeficiency virus (HIV). Of the two major forms of HIV, infection with type 1 (HIV-1) is prevalent throughout the world and is characterized by a slow, progressive deterioration of the immune system that is almost uniformly fatal (Fauci, 1988; Redfield et al, 1988). By contrast, . . .

2. **Objectives of the Study**

   2.1 To develop a nested polymerase chain reaction (nested PCR) method for detection of HIV-1 DNA in peripheral blood mononuclear cells.

   2.2 To develop a rapid and sensitive competitive reverse transcription and polymerase chain reaction (cRT-PCR) method for quantitation of HIV-1 RNA in plasma.

3. **Scope and Limitation of the Study**

   3.1 To design oligonucleotide primers specific for *gag* region.

   3.2 To develop the method for detection of HIV-1 DNA by nested PCR.

   3.3 To determine the sensitivity and specificity of the method.

   3.4 . . .

4. **Anticipated Outcomes**
CHAPTER II
LITERATURE REVIEW

1. History
The first cases of AIDS in humans were recognized in 1981 based on an unusual clustering of disease including Kaposi’s sarcoma and Pneumocystis carinii pneumonia in young homosexual men (Gottlieb et al, 1981; Masur et al, 1981; Siegal et al, 1981). AIDS cases were...

2. Virology
2.1 Classification
Both HIV-1 and HIV-2 are RNA viruses that belong to the mononcogenic, cytopathic lentivirus genus of retroviruses...

2.2 Composition of Virus
2.2.1 Virion Morphology, Structure, Size and Genomic Organization
The HIV-1 virion size is approximately 100 to 150 nm in diametre as measured by electron microscopy. Mature viral particles are...

2.2.2 Major Structural and Regulatory Proteins
The major core proteins of HIV which encoded by the gag gene are synthesized as a large...

2.3 Biology
2.3.1 Replication of HIV
...
1.4 DNA Amplification by Polymerase Chain Reaction (PCR)

... In secondary PCR, 5 µl of primary PCR products were added to new reaction tubes containing fresh PCR reagent with the corresponding inner primers. The samples were then subjected to 30 PCR cycles. The details of PCR cycles for each primer pair are presented in Table 2.

Table 2 The thermal cycling profiles of nested PCR.

<table>
<thead>
<tr>
<th>Primer Pairs</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAGUP/GAGLO,</td>
<td>94 °C 3 min</td>
</tr>
<tr>
<td>SK380/SK390,</td>
<td>94 °C 30 s</td>
</tr>
<tr>
<td>And SK38/SK39</td>
<td>55 °C 30 s</td>
</tr>
<tr>
<td></td>
<td>72 °C 30 s</td>
</tr>
<tr>
<td></td>
<td>72 °C 7 min</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program</th>
<th>1 cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRT/3519</td>
<td>94 °C 3 min</td>
</tr>
<tr>
<td></td>
<td>94 °C 30 s</td>
</tr>
<tr>
<td></td>
<td>58 °C 30 s</td>
</tr>
<tr>
<td></td>
<td>72 °C 30 s</td>
</tr>
<tr>
<td></td>
<td>72 °C 7 min</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BRT/3519</th>
<th>1 cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>2566/2873,</td>
<td>94 °C 3 min</td>
</tr>
<tr>
<td>JA9/JA12,</td>
<td>94 °C 30 s</td>
</tr>
<tr>
<td>And JA10/JA11</td>
<td>50 °C 30 s</td>
</tr>
<tr>
<td></td>
<td>72 °C 30 s</td>
</tr>
<tr>
<td></td>
<td>72 °C 7 min</td>
</tr>
</tbody>
</table>
As mentioned above, Oxalate and CaOx-induced ROS formation and further cellular damages throughout the process of their chain reaction products as shown in Figure 2, and Figure 1. Moreover, ceramide lipid byproduct affects intracellular pH, and may alter cellular function or trigger intrinsic apoptotic signals in an acidic state (Famulski et al., 1999). In addition, excessive crystal deposits may induce local injury and inflammation indicated by cytosolic enzymes such as alkaline phosphatase (ALP), leucine aminopeptidase (LAP) and N-acetyl-β-glucosaminidase (NAG) (Khan et al., 1992). Further local tissue damages accelerate the vicious cycling process of tubular epithelium damage and crystal attachment (Khan, 2006; Scheid et al., 2000). Thus, the fixing particles augment the progression of renal stone disease.

**Figure 2** Oxalate induced mitochondrial oxidative stress from (1) passes through lipid signaling (2), (3), (4) (Scheid and Jonassen, 2004)