

# MUSC3802

A i g]W5bU`mg]g

GYa YghYf`Hk c`#`&\$%

7ci fgY`Cj Yfj JYk

`GHUZZ7cbhUWhi8YHU]`g`

`7cbj Ybcfg`

B Ua Y	9a U]`	5j U]UV]`]m	@cWU]hcb	D\cbY
A ]WUY`<ccdYf	a "\ccdYf4 i bgk "YXi "Ui	6mUddc]bha Ybh	C Z]W`%%( ž @Yj Y`%ž F cVYfh K YVghYf`6`X[	

GWcc`7cbhUWhi`bZcfa Uh]cb

Fcca "`%ž`Yj Y`" `F cVYfhK YVghYf`6i ]X]b[

D\cbY.`f&Ł-` , ) `( , ) \*

9a U]: [gUa 4 i bgk "YXi "Ui](#)

K YVg]hY: [\hmg #gUa "Ufmg"i bgk "YXi "Ui](#)

H\Y`GWcc`cZhY`5fmg`UbX`A YX]U`k ci `X`]\_Y`hc`F YgdYWZ`m5W\_bck`YX[ Y`hY`HfUX]h]cbU`7i`ghcX]Ubgž`hY`6YXY[U`fP`Ybg]b[`hcb`WJa`di`gŁž;`UX][U`fP`]mUbX`5fhr`8Yg][b`7Ua`di`gYgŁ`UbX`hY`B[ i`bbUk`U`dYcd`Y`f5i`ghfU]Ub`8YZYbWV`:`cfW`5WUXYa`m]b`7UbVYffUŁ`cZhY`UbXg`k`YFY`YUWX`WJa`di`g`cZI`BGK`]g`cWU]hYX"

5hYbXUbW`F Yei ]fYa Ybhg

5`gh`XYbh]g`YI`dYWYX`hc`UmYbX`U`WUgg`WcbhUWh`ci`fg`Zcf`U`ZUW`!hc!ZUW`fl`&`Ł`cf`V`YbXYX`WŁ\$

a "Ufmg"i b

## 5 WUXYa JWbZcfa Uhcb`

: cfYggYbhU`ghi XYbh]bZcfa Uhcb`fY`Uh]b[ `hc. fYei Yghg`Zcf`YI hYbg]cb/fYj ]Yk `cZa Uf\_g/cVW dUh]cbU``YU`h  
UbX`gUZ`m/YI Ua ]bUh]cb`dfcW`Xi fYg/gdYW]U`Wc]bg]XYfUh]cb`]b`h`Y`Yj Ybh]cZ]`bYgg`cf`a ]gUXj Ybh fY/  
ghi XYbhYeI ]mUbX`X]gUV]`]m`UbX`ch`Yf`YggYbh]U``UWUXYa ]W]bZcfa Uhcbž  
gYY`[\frdg.##k k "Ufrg"i bgk "YXi "Ui #W ffYbh\]ghi XYbh\]#UWUXYa \]W\]bZcfa Uhcb#dfc\]cWc`gl`i \]XY`\]bYg#](#)

7 ci fgY'8YHJ]`g

7 fYX]hDc]bHg '\*`

Gi a a UfmicZ`h`Y'7 ci fgY

Gi V`Y`W`h`5`f`Y`U`.'? ge[U

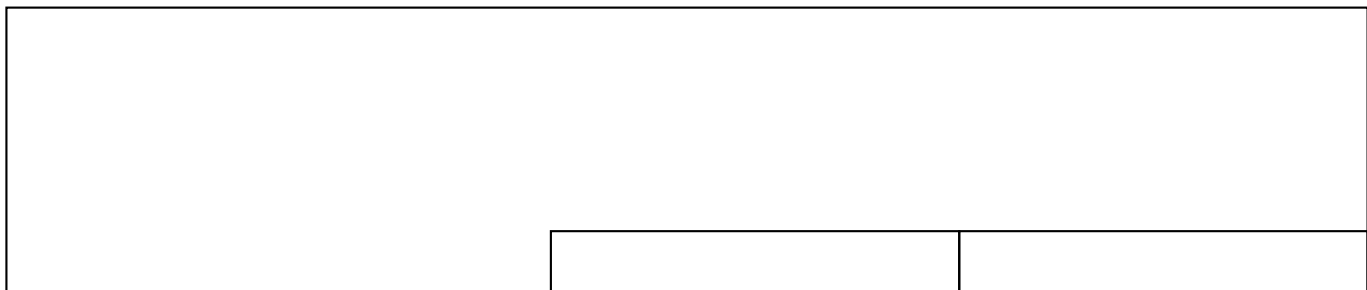
⊕`h`g]`W`i fgY`m`c`i`k`]'`Y`U`f`b`'U`f`U`b`[`Y`'c`Z`g`f`U`H`[`]'`Y`g`'Z`c`f`'Z`c`W`g`]b`[`'c`b`'a`i`g`]W`]b`'X`Y`H`J`]'`M`c`i`'k`]'`V`Y`'H`J`i`[`'\`h`'c`k`  
h`c`'U`b`U`'m`Y`'a`i`g`]W`]b`'U`'g`i`g`H`J`]b`Y`X`'U`b`X`'d`U`f`H`J`W`'U`f`'a`'U`b`b`Y`f`'A`c`f`Y`'V`f`c`U`X`'m`z`'m`c`i`'k`]'`[`U`]b`'U`'V`Y`H`Y`f`  
i`b`X`Y`f`g`H`U`b`X`]b`[`'c`Z`g`c`a`Y`'c`Z`h`Y`'d`f`c`V`Y`a`g`!'`c`Z`H`Y`W`X`b`]e`i`Y`z`c`Z`Y`I`d`Y`f`]Y`b`W`'z`c`Z`X`Y`g`W`]d`h`c`b`!'`h`U`h`a`c`h`j`U`H`Y`'a`i`g`]W`  
U`b`X`]h`g`'U`b`U`'m`g`]g`'G`c`]b`'U`X`X`]h`c`b`'h`c`'g`d`Y`W`Z`W`k`U`m`g`'c`Z`U`b`U`'m`]b`[`'a`i`g`]W`'z`h`Y`'W`c`i`fgY`'k`]'`]b`W`i`X`Y`'X`]g`W`g`g`]c`b`g`'c`Z`  
f`Y`U`X`]b`[`g`'h`U`h`U`f`Y`'f`Y`'Y`j`U`b`h`c`'Y`U`W`'a`Y`h`c`X`]'`5`h`h`Y`'Y`b`X`'c`Z`h`Y`'W`c`i`fgY`'m`c`i`'k`]'`'\`U`j`Y`'U`[`c`c`X`[`f`c`i`b`X`]b`[`'b`  
h`Y`'d`f`U`W`]W`]'g`]'g`'b`Y`Y`X`Y`X`'h`c`'U`b`U`'m`Y`'a`i`g`]W`'z`U`b`X`]b`'U`b`U`'m`g`]g`U`g`'U`b`'b`h`Y`'Y`W`i`U`'d`i`f`g`i`]h`'

5 h`h`Y`'W`c`b`W`i`g`]c`b`'c`Z`h`J`g`'W`c`i`fgY`'h`Y`'g`h`i`X`Y`b`h`k`]'`V`Y`'U`V`'Y`'h`c`

%`5`d`d`'m`X`Y`H`J`]Y`X`'k`c`f`\_]b`[`'\_`b`c`k`'Y`X`[`Y`'c`Z`U`'f`U`b`[`Y`'c`Z`a`Y`h`c`X`g`  
&`8`Y`a`c`b`g`f`U`H`Y`'h`Y`'\_`b`c`k`'Y`X`[`Y`'c`Z`k`'\`]W`'U`b`U`'m`]W`]'a`Y`h`c`X`g`U`f`Y`'U`d`d`f`c`d`f`]U`H`Y`'Z`c`f`U`[`]'`j`Y`b`'d`f`c`V`Y`a`  
'`" `I`b`X`Y`f`g`H`U`b`X`'h`Y`]'`a`]h`g`'c`Z`U`b`'U`b`U`'m`]W`]'a`Y`h`c`X`  
(`7`c`a`a`i`b`]W`U`H`Y`]'X`Y`U`g`'U`V`c`i`h`a`i`g`]W`]'U`b`U`'m`g`]g`  
)`7`'\`c`c`g`Y`'U`b`'U`d`d`f`c`d`f`]U`H`Y`'a`Y`h`c`X`'c`Z`U`b`U`'m`g`]g`'Z`c`f`U`[`]'`j`Y`b`'d`]Y`W`'c`Z`a`i`g`]W`'z`U`b`X`'h`c`'U`f`[`i`Y`'Z`c`f`]h`g`  
U`d`d`]W`U`V`]'`]h`m`

H`Y`U`W`X`]b`[`'G`h`f`U`H`Y`[`]'`Y`g`'

H`Y`'Y`W`i`f`Y`'k`]'`]b`h`c`X`i`W`'h`Y`'Y`g`g`Y`b`h`U`'U`g`d`Y`W`g`'c`Z`Y`U`W`'U`b`U`'m`]W`]'a`Y`h`c`X`z`h`c`'d`f`c`j`]X`Y`'U`'V`U`g`]g`'Z`c`f`'z`f`h`Y`f`  
X`]g`W`g`g`]c`b`]b`'h`Y`'h`i`h`c`f`]U`'g`z`'U`b`X`'h`c`'d`f`c`j`]X`Y`'h`Y`'V`U`g`]W`'\_`b`c`k`'Y`X`[`Y`'Z`c`f`'h`Y`'U`g`g`Y`g`g`a`Y`b`h`'H`Y`'h`i`h`c`f`]U`'h`j`a`Y`'k`]'`  
V`Y`'X`j`]X`Y`X`'V`Y`h`k`Y`Y`b`'g`h`i`X`Y`b`h`Y`X`'d`f`Y`g`Y`b`h`U`h`c`b`#`X`]g`W`g`g`]c`b`'c`Z`f`Y`U`X`]b`[`g`'U`g`g`c`W`]U`H`Y`X`'k`]h`'U`b`'U`b`U`'m`]W`'  
h`Y`W`X`b`]e`i`Y`'f`U`]'g`h`k`]'`V`Y`'d`f`c`j`]X`Y`X`z`'U`b`X`'U`'X`]g`W`g`g`]c`b`'c`Z`h`Y`'W`c`a`d`c`b`Y`b`h`g`'c`Z`h`Y`'d`c`f`h`z`]'c`'c`Z`U`b`U`'m`g`Y`g`z`  
h`c`[`Y`h`Y`f`'k`]h`'U`b`'c`d`d`c`f`h`i`b`]h`m`h`c`'d`f`U`W`]W`]'U`b`U`'m`]W`]'h`Y`W`X`b`]e`i`Y`'H`Y`'U`]a`'c`Z`h`Y`'h`i`h`c`f`]U`]'g`'h`c`[`]'`j`Y`'g`h`i`X`Y`b`h`g`'U`  
W`X`U`b`W`'h`c`'X`c`'g`c`a`Y`'f`U`b`X`g`!`c`b`f`k`c`f`\_]b`'h`Y`'g`U`a`Y`'Z`c`f`i`a`]'`b`k`'\`]W`'X`]g`W`g`g`]c`b`g`'U`f`Y`'U`'g`c`'h`U`\_]b`[`'d`'U`W`"



8YHJ]g. '5bU'm]W'Ugg][ ba Ybž]b'k \]W'gh XYb]k ]''UbU'm]Y'a i g]Wi g]b[ 'hY'h]fX'a YhcX'h]i [ \h]b'hY  
W'i fgYžk ]h'U'ZcW g'cb'hY''a ]h]cZUbU'm]W''\_bck 'YX[ Y''H\Y''Yb[ h'cZgi Va ]gg]cb'k ]''XYdYbX'cb'hY  
dUf]W 'Uf'UbU'm]W''a YhcX''#k ]''bWi XY'[ fUd\]Wk cf\_'k \YfY'Uddfcdf]UHy 'hc'hY'a YhcXžUbX'U'ZcW gYX  
YI d'UbU]cb']b'dfcgY'cZbc'a cfY'hU'%'\$\$\$'k cfXg''Gh XYb]k ]''fYW]j Y'k f]hYb'ZYXVUW\_'UbX'U'a Uf\_''

5XX]h]cbU'XYHJ]g.

: cf'U''XYHJ]g'cZhY'Ugg][ ba Ybž]gYY'A ccX'Y''

Hi fb]h]b'gYH]b[ . 'H\]g]g'bchU'Hi fb]h]b'Ugg][ ba Ybh

# Gi Va ]gg]cb'cZ5ggYgga YbhHUg\_g

Gh XYbthg'UFY'YI dYWVX'hc'di hHAY'f'buA Yg'UbX'ghi XYbhbi a VYfg'cb'Yj YfmdU[ Y'cZHY]f'Ugg][ ba Ybthg"

## Hi fb]hb'Gi Va ]gg]cb

Zmci YbWci bhYf'U'dfcV'Ya 'k \Yb'UHYa dh]b[ 'hc'gi Va ]hrci f'Ugg][ ba YbhHfci [ \ 'Hi fb]hbzd'YUgY  
HY'Yd\cbY'9I HYfbU'Gi ddcfhcb'-', ) "' ' ' %cf'Ya U]'HYa 'cb'[YI HYfbU'HY'fji ddcfh4 i bgk "YXi "Ui "](#)"Gi ddcfh  
\ci fg'UFY', .\$\$Ua '-'%. \$\$da 'cb'k YY\_XUmg'UbX'-. \$\$Ua '-'). \$\$da 'cb'k YY\_YbXg'fI \*) 'XUmg'U'mYUfL'Zmci  
UFY'i bUVY'hc'gi Va ]hrci f'Ugg][ ba YbhXi Y'hc'U'ZU' 'hk ]H'Hi fb]hb'mci 'a UmUdd'mZcf'Ub'YI HYbg]cbZ'Vi hrci  
a i ghfYHU]b'mci f'h]W\_Yhbi a VYfZ'ca '9I HYfbU'Gi ddcfhfU'cb[ 'k ]H'UbmcHAYf'fY'Yj UbhXcW a Ybthg'hc  
]bWi XY'Ug'Yj ]XYbW'hc'gi ddcfhrci f'YI HYbg]cb'Udd']W]hcb"-Zmci 'Ya U]'9I HYfbU'Gi ddcfhrci 'k ]'  
Ui 'ca UH]W' 'mifYW'j] Y'U'h]W\_Yhbi a VYfZ'Vi h]Zmci 'HY'Yd\cbY'mci 'k ]' 'bYX'hc'gdYW]W' 'mUg\_'Zf'cbY"  
Hi fb]hb'U'gc'dfcj ]XYgi dXUH'g'cb'HY]f'gmghYa 'ghUH'g'cb'Hk ]HYf"

; YbYfU'mZ'UggYgga YbhHUg\_g'a i ghVY'gi Va ]HYX'Y'YWfcb]W'mj ]U'Y]HAYf'Hi fb]hb'cf'U'A ccX'Y  
Ugg][ ba Ybh' 'b]bgHUbW'g'k \YfY'h.]g' ]g'bchidcgg]V'YZ'hk ]'VY'g'UH'X'cb'mci f'Wci fg'g'A ccX'Y'g]HY'k ]H  
U'HYfbUH] Y'gi Va ]gg]cb'XYHU]g"

## @UH'5ggYgga YbhDYbU'h]Yg

Gh XYbthg'UFY'fYgdcbg]V'Y'Zcf'HY'gi Va ]gg]cb'cZUggYgga YbhHUg\_g'VmiHY'f'YeI ]fYX'XUH'g'UbX'h'a Yg'  
8YdYbX]b[ 'cZHY'YI HYbhcZXY'Um]b'hY'gi Va ]gg]cb'cZUb'UggYgga YbhHUg\_g'dUghHY'Xi Y'XUH'UbX'h'a Yz  
cbY'cZHY'Zc'ck ]b[ 'UH'dYbU'h]Yg'k ]'Udd'mi b'Ygg'gdYWU'W'bg]XYfUH'cb'cf'U'V'Ub\_YhYI HYbg]cb'Xi Y'hc'U  
HYWb]W'ci HU] Y' ]g[ fUbHYX": cf'HY'di fdcgY'cZ'UH'dYbU'mW'W'UH]cbZ'U'XUm]g'XYYa YX'hc'VY'YUWX  
&(!\ci f'dYf]cX'f'cf'dUfhHYfYcZ'dUghHY'gh]di 'UH'X'XYUX']bY'Zcf'gi Va ]gg]cb"

- K cf\_'gi Va ]HYX'Ygg'h'Ub'%'\$'XUmg'UZH'f'h'Y'gh]di 'UH'X'XYUX']bY' ]g'gi VYWH'hc'U'XYXi W]cb'cZ  
) i 'cZHY'hc'U'Uk UfXUV'Y'a Uf\_'Zca 'h'Y'a Uf\_'h'Uhk ci 'X'\Uj Y'VYYb'UWX]Yj YX']ZbchZcf'HY  
dYbU'mZcf'Yj YfmXUmdUghHY'gh]di 'UH'X'XYUX']bY'Zcf'gi Va ]gg]cb" H\UH]gZ'U'gh XYbhk \c'gi Va ]hg  
Ub'Ugg][ ba Ybhk ]H'U'gh]di 'UH'X'XYUX']bY'cZ( .\$\$da 'cb'%' 'A Um&\$%' 'Uh( .\$\$da 'cb'%' 'A Um&\$%'  
k ]' ]bW'f'U'XYXi W]cb'cZ%'\$i " "

HUg\_'k ]H'U'bc'b dYfW'bhU[ Y'a Uf\_

ZHY'HUg\_]g'a Uf\_YX'ci hcZ&) ZHYb'UH'gi Va ]gg]cb'k ]'UH'fUWH'U'dYbU'mcZU'XYXi W]cb'cZ%'&) Zca 'h'Y  
a Uf\_'Uk UfYX'hc'h'Y'gh XYbhZcf'Yj Yfm&(!\ci f'dYf]cX'f'cf'dUfhHYfYcZ'dUghHY'gh]di 'UH'X'XYUX']bY"

- K cf\_gi Va ]hYX %\$'hc '%- 'XUmg 'UZhYf'h'Y'gh]di 'UhYX'XYUX`]bY'k ]''VY'UggYggYX'UbX'ZYXVUW\_dfcj ]YXX'Vi hU'a Uf\_cZnYfc'k ]''VY'fYWcfYXX''Z'hY'k cf\_k ci 'X'\Uj Y'fYW]j YX'U'dUgg'a Uf\_Vi hZcf hY''UhY'bYgg'UbX'hY'k cf\_]g'U'Wta di `gcfmWci fgY'Wta dcbYbhfi fX'Y'fYei ]fYa YbhZ'U'gh XYbhk ]''VY'XYa YX'hc'\Uj Y'a Yh'hUhfYei ]fYa Ybh'
- K cf\_gi Va ]hYX '&\$'cfa cfY'XUmg 'UZhYf'h'Y'gh]di 'UhYX'XYUX`]bY'k ]''bchVY'UWW'dhYX'Zcf UggYgga YbhUbX'k ]''fYW]j Y'bc'ZYXVUW\_za Uf\_cf[ fUXY''Z'hY'UggYgga YbhUg\_]g'U'Wta di `gcfm Wta dcbYbhicZ'hY'Wci fgY'U'gh XYbhk ]''fYW]j Y'Ub'l bgUh]gZUWcfm: U]'fl : k'[ fUXY'Ug'U'fYgi `hcZ i bgUh]gZUWcfmdYfZcfa UbVW`]b'Ub'YggYbh]U'Wta dcbYbhicZ'hY'Wci fgY''

H\]g`]bZcfa Uh]cb`]g'U'gc'Uj U]UV'Y'Uh

[\hdg.##k k k "Ufng"i bgk "YXi "Ui #W ffYbthgh XYbmg#JWJXYa \]W\]bZcfa Uh\]cb#dfchWc`g!\[ i \]XY`\]bYg#](#)



5 WUXYa ]W<c bYghmiUbX`D`U[ ]Uf]ga

D`U[ ]Uf]ga `]g`i g]b[ `hY`k cfXg`cf]XYUg`cZchYfg`UbX`dfYgYbh]b[ `hYa `Ug`mci f`ck b" `hWUb`hU`Y`a Ubm  
Zcfa gZ`Zca `XY`]VYfUHY`WXYU]b[ `hc`UWV]XYbhU`mW`dm]b[ `Zca `U`gci fW`k ]h`ci hUW\_bck`YX[ Ya Ybh`

I BGK `[ fci dg`d`U[ ]Uf]ga `]bhc`hY`Zc`ck ]b[ `WUHY[ cf]Yg.

7 cdm]b[ .`i g]b[ `hY`gUa Y`cf`j Yfmg]a ]Uf`k cfXg`hc`hY`cf][ ]bU`hYI hcf`]XYU`k ]h`ci hUW\_bck`YX[ ]b[ `hY`  
gci fW`cf`i g]b[ `ei chU]cb`a Uf\_g`"H\]g`U`gc`Udd`]Yg`hc`]a U[ YgZ`UfhUbX`XYg][ b`dfc`YWgZ`Ug`k Y`Ug  
dfYgYbhU]cbg`k \YfY`gca YcbY`dfYgYbh]g`UbchYf`g`]XYUg`cf`k cfXg`k ]h`ci hWYX]h`

hUddfcdf]UHY`dUfUd`fUg]b[ .`7`Ub[ ]b[ `U`ZYk `k cfXg`UbX`d`fUgYg`k \]Y`a cghmiFYhU]b]b[ `hY`cf][ ]bU`  
ghfi W`i fY`UbX`#`f`dfc[ fYgg]cb`cZ]XYUg`cZ`hY`cf][ ]bU`Z`UbX`]bZcfa U]cb`k ]h`ci hUW\_bck`YX[ Ya Ybh`H\]g`U`gc  
Udd`]Yg`]b`dfYgYbhU]cbg`k \YfY`gca YcbY`dUfUd`fUgYg`UbchYf`g`]XYUg`cf`k cfXg`k ]h`ci hWYX]hU`bX`hc  
d]YW]b[ `hc[ YhYf`ei chYg`UbX`dUfUd`fUgYg`]bhc`U`bYk `k \c`YZ`k ]h`ci hUddfcdf]UHY`fYZYfYbW]b[ "

7 c`i g]cb. `k cf\_]b[ `k ]h`chYfg`Vi hdUgg]b[ `cZ`hY`k cf\_]Ug`U`dYfgcb`g`]bX]j ]Xi U`k cf\_"`7 c`i g]cb`U`gc

- i bXYfghUbx'mci f'f][ \hg'UbX'fYgdcbg]V]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[ ]Uf]ga ž'Wcdmf][ \hžI BGK 'Gh XYbh7cXY'cZ7cbXi WñUbX'5WwdfUV'Y'I gY'cZ I BGK '⇒H'F Ygci fW'g'Dc`]Wñ
- VY'Uk UfY'cZñY'ghUbXUfXg'cZVY\Uj ]ci f'YI dYWñX'cZYj Yfmcby' ]b'hY'I BGK 'Wca a i b]m
- `cWñH'gYfj ]Wg'UbX' ]bZcfa Uhcb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZñYgY'UfYUg'k ]`VY'ZJa ]]Uf'hc'mci žcñYfg'k ]`VY'byk "; U]b]b[ 'U'gc`X'i bXYfghUbx]b[ 'cZU`ñY fY'UH'X'UgdYWñ'cZ9@G9'k ]`Y'd'mci 'a U\_Y'hY'a cghcZmci f'gh X]Yg'Uhl BGK "

[f\hñ.#gi.VYWñ\[i\]XYg"\]VfUfm'i bgk "YXi "Ui #'\]gY#UVci h' \]gYŁ](#)



F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

GYY`A ccXY

F YWca a YbXYX`F Ygci fWg

7 UXk U`UXYfz5`Yb`7`UmrcbZ`UbX`8Uj`jX`; U[ bY" &\$%&" 3` S`ke[e aXfa` S^\_ ge[U, S E UZW ] Wd[S` SbbcaSUZ"  
CI ZcfX.`CI ZcfX`i b]j Yfg]mDfYgg"

7ci fgY`9j U`i Uh]cb`UbX`8Yj Y`cda Ybh

H\Y`VYghZYXVUW`hUhmc`i`Wb`[ ]j Y`UVci h`h`Y`Wci fgY`]g`h`fci [ \`ZJW!hc!ZJW`X]gW gg]cb": YY`ZY`hc  
hU`\_`hc`a Y`UVci h`h`Y`Wci fgY`UhUbm]a Y"

: YYXVUW`\_j ]U`A m9I dYf]YbW`Yj U`i Uh]cbg`cZ`Wci fgY`Wc`bh`Y`bh`UbX`Y`Ufb]b[ `UbX`h`Y`UWk]b[ `a Y`h`c`Xg`k`j`VY  
Wca d`Y`h`X`Uh`h`Y`YbX`c`Z`h`Y`gYa YghYf"

⇒ U[ Y`7`fYX]h

| A <

7F ⇒ CG

7F ⇒ CG`Dfcj ]XYf`7`cXY.`\$\$\$- , ;