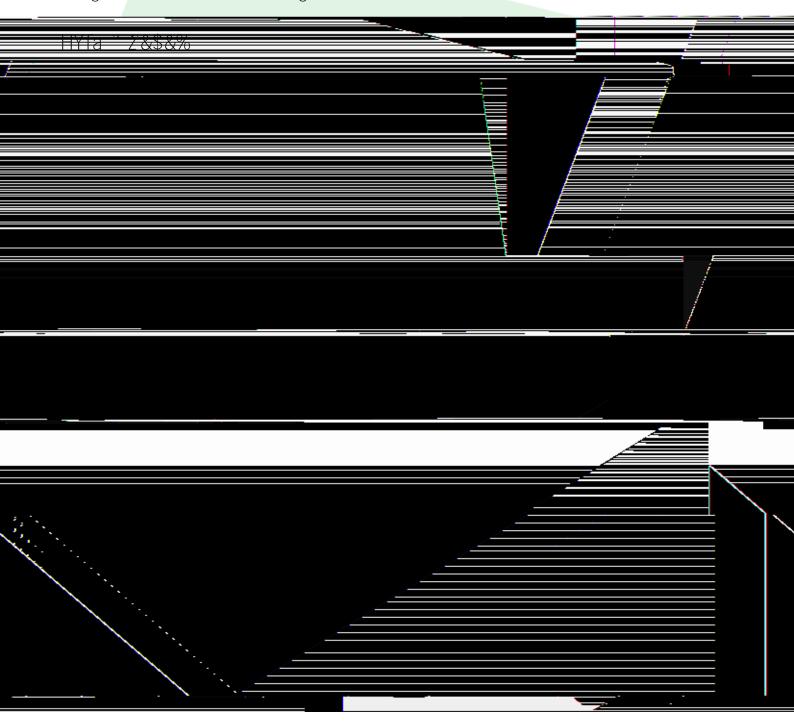


MUSC2801

Aig]WDYfZcfa UbWY'GhmYg'UbX'±bHYfdfYhUh]cb



7 ci fgY Cj Yfj]Yk

GHJZ7cbHJWh8YHJ]`g

7cbj Ybcfg

B Ua Y	9a U]`	5j U]`UV]`]m	@cWUh]cb	D\cbY
GcbmU^@]ZgWX]m	g"`]ZgVX]m4 i bgk "YXi "Ui	d`YUgY'YaU]`'Zcf Uddc]bhaYbh'	FcVYfh KYVghYf*%\$(

GWXcc``7cbHJWh'±bZcfa Uh]cb

GWXcc``cZhXY`5fhg`UbX`AYX]U

Fcca " ‰ž@Yj Y`" žFcVYfhK YVghYf'6i]`X]b[fl %(Ł

D\cbY.'f\$&E'-',)'(,)*

9a U]`. <u>gUa 4 i bgk "YXi "Ui</u>

K YVg]hY. k k k "Ufhg"i bgk "YXi "Ui #gUa

5W_bck `YX[Ya YbhcZ7ci bhfm

I BGK '5ffgž8Yg][b'UbX'5fW,]hYWi fY'? Ybg]b[hcb'UbX'DUXX]b[hcb'WJa di gYg'UfY'Vi]'hcb'5Vcf][]bU`@UbXg"'K Y'dUmci f'fYgdYWg'hc'h\Y'6]X'][U''UbX'; UX][U''dYcd'Yg'k \c'UfY'h\Y'7 i ghcX]Ubg'cZh\YgY'`UbXg" K Y'UW_bck 'YX[Y'h\Y'5Vcf][]bU`'UbX'HcffYg'G'HU]h=g`UbXYf'dYcd'Ygž'h\Y':]fghi5i ghfU`]Ubgžk \cgY'`UbXgž k]bXg'UbX'k UhYfg'k Y'U``'bck 'g\UfYž'UbX'dUmfYgdYWhc'h\Y]f'i b]ei Y'j U'i Ygž'UbX'h\Y]f'Wcbh]bi]b['UbX YbXi f]b['W 'h fYg'k \]W. 'XYYdYb'UbX'Ybf]W. 'h\Y'`]ZY'cZci f'bUh]cb'UbX'Wca a i b]h]Yg"''

7ci fgY 8YHJ] g

I b]hg cZ7 fYX]h * *

Gi a a UfmcZh\Y 7ci fgY

H\]g`Wci fgY`XYj Y`cdg`gdYWJU`]gYX`_bck `YX[Y`cZU`fUb[Y`cZa i g]WgmiYg`]bWi X]b['fhcgY`XYf]j YX`Zfca dUffjW `Uf`\]ghcf]WU``dYf]cXgž[YbfYg`UbX`UddfcUW.Yg`hc`a i g]WJbHYfdfYhUhjcb"'H\]g`_bck `YX[Y`k]```VY UWei]fYX`fhci [\`U`WcgY`ghi XmcZa i g]WU``gWcfYgž'U'k]XY`fUb[Y`cZgY`YWHX`fYdYfhc]fYž'fYWcfX]b[gž8J 8 g UbX`a i g]WU``gW\c`Ufg\]d`gi ddcffjb['dYfZcfa UbW'''Ghi XYbhg`k]``VY`YI dYWHXX`hc`XYa cbghfUhY`Ub`UV]`]mihc dfYgYbh'U`gmi]gh]WU``m]bZcfa YX`dYfZcfa UbW'`k]h\`WUfYZ ``Wcbg]XYfUhjcb`cZfY`Yj Ubh'hYW.b]WU``UbX]bhYfdfYhUhj Y`]ggi Yg"

7 ci fgY @YUfb]b[Ci hWca Yg

%" 8 Ya cbglfUlY 'gc`]X' hY W.b]WU``g_]``gž`]bZcfa YX'a i g]WU``^ X[Ya Ybh'UbX`Wcbj]Wf]cb`]b`dYfZcfa UbW\" &" 8]gd`UmdfcZYgg]cbU`]ga 'UbX`cf][]bU`]mi]b`ZJg\]cb]b['UbX`fYU`]g]b['U`dYfZcfa UbW\'dfc^YWf' ' " 5 fh]W\`UhY`gcd\]gh]WUhYX`]XYUg`fY`Uh]b['hc`U`VfcUX`fUb[Y`cZa i g]WU``UbX`dYfZcfa UbW\'ghmYg"

HYUWX]b['GhfUhY[]Yq'

H\Y`fUh]cbu`Y`Zcf`h\]g`Wci fgY`]g`df]a Uf]`mh\Uh[fUXi UhYg`k]``fYei]fY`U`j Yfm\][\``Yj Y``cZdYfZcfa UbWY`g_]`` UbX`Wca d`Ya YbhUfmfYdYfhcf]U``UbX`]bhYfdfYh]j Y`_bck `YX[Y`]b`U`gY`ZgY`YWhYX`UfYU`cZa i g]Wa U_]b["`H\YfYZcfYž'U`gYf]Yg`cZgdYW]U`]gha UghYfWUggYg`WcbXi WhYX`VmYI dYfh`]bghfi a YbhU``UbX`j cWU``dfUWf]h]cbYfg k]```VY`XYd`cmYX`hc`Wca d`Ya Ybhk cf_g\cdg`h\UhYI Ua]bY`UbX`fYZYWhcb`]ggi Yg`Uf]g]b[`Zfca 'h\Y a UghYfWUggYg`h\fci [\`WUgg`X]gW gg]cb`UbX`ghi XYbhdYfZcfa UbWY!VUgYX`XYa cbghfUh]cbg"``5`gYf]Yg`cZ`YWhi fYg`k]``]bhfcXi WY`_YmfYgci fWYg`UbX`UddfcUWXYg`hc`UbU`mg]g`Zcf`dYfZcfa Yfg`UbX`YI dUbX`_bck`YX[YcZU`k]XY`fUb[Y`cZfYdYfhc]fY"``

5ggYgga Ybh

Mci 'k]```fygYufW.'U'dfc YWi]bj c`j]b['bcb!ffUX]h]cbU``UbX'cf][]bU``dfygYbHJh]cb'Zcfa Uhz'gi W.'Ugz'Zcf]bgHJbW'z'a i 'h]a YX]U'cf']bhYfX]gW]d`]bUfmUddfcUW.'hc'dYfZcfa UbWW'i b]ei Y'UbX']bj Ybhjj Y'i gY'cZbcb! ffUX]h]cbU``dYfZcfa UbWW'j Ybi Yg'cf'gHJ[]b['UddfcUW.Yg/cf][]bU'z'WYUhjj Y'UbX'i bcfh\cXcI 'WcbWW'dh'bcb! cfh\cXcI 'Ui X]YbW'Yb[U[Ya YbhUbX'dUfh]W]dUh]cb/UWhjj Y'Wca a i b]lmYb[U[Ya Ybhicf'Yb[U[Ya Ybhik]h\ gcW]U'#dc`]h]WU`]ggi Yg'h\fci [\'dYfZcfa UbWW'cf'Ub'cf][]bU``UXUdhUh]cb'hc'Ub'cb`]bY'dYfZcfa UbWW'a YX]i a ']b fYWYbhhja Yg"

 $C \ bW 'mci '` \ Uj \ Y ']XYbh]Z]YX'h Y 'dfc \ YW 'UbX'h Y 'Ufh]gh#cf[Ub]gUh]cb'h UhgdYU_g'hc'mci 'UbX'mci f'dUfh]W `Uf WfYUh]j Y 'Ugd]fUh]cbg' UbX'a cXY'g'Zcf'mci 'Ufh]gh]Wj U'i Yg'mci fX'`]_Y'hc'Ya i `UhYž'mci k]```YUfb' Ug'a i W. 'Ug mci 'WUb' UVci hih Y 'dfc \ YWh h fci [\ 'mci f'ck b'fYgYUfW 'UbX'k]``gi VgYei Ybhm'WcbhUWh Y _YmWfYUh]j Y#g]bj c'j YX']b'h Y'dfc \ YWhZcf' Ub']bhYfj]Yk''$

Mci 'k]```XYj]gY`U`gYhcZ]bhYfj]Yk 'ei Ygh]cbg`h\UhVYghiHUf[Yhih\Y`]bZcfa Uh]cb`mci 'k ci `X``]_Y`hc`[`YUb`Zfca h\Y`]bhYfj]Yk YY"`H\Y`dcgg]V`Y`]bhYfj]Yk 'ei Ygh]cbg`k]```VY`k cf_g\cddYX`]b`WUgg`cbWY`h\Y`dfcYWfg`\Uj YVYYb`]XYbh]ZYX`UbX`h\Y`Uff]ghg`WcbhUWhX"

Mci f'dUdYf'k]``XYHJ]`'h\Y`UgdYWg`cZh\Y`dfcYWiUbX'k\UhiUddYU`YX`hc`mci 'UVci h]hY`i W]XUhY`k Umg`]b k\]w\#\ggYUgW\Z]b[Y\\\ggY\g\X]b[Y`\\\ggY\Ug\X]b[Y\\\ggY\Uh]\\gg'\g\\\gg\\\g\\gg'\h\Y``YUfb]b[g`Zfca`]bhYf]]Y\k]b[`\h\Y`fa`U_YffcZh\Y`dfcY\\'

5ggYgga Ybh' . Di V`]WdYfZcfa UbW

		Di V`]WdYfZcfa UbWY`UggYgga Ybhg`VY[]b"
K YY_'%\$.'%) 'Bcj Ya VY !'%- 'Bcj Ya VYf	f GYa]bUf	Di V`]WdYfZcfa UbWfg'Wcbh]bi Y"'7`Ugg'XYVf]YZ' 7Y`YVfUh]cb'cZgi fj]j]b['Ubch\Yf'7cj]X'mYUf''

FYgci fWyg

DfYgWf]VYX F Ygci fWYg

HYI N/cc_. 'Gh/]bž8YVcfU\"'f&\$\$) Ł"'9b[U[]b['A i g]W"BYk 'N/cf_ž'C| ZcfX. 'C| ZcfX'| b]j Yfg]miDfYgg" 5B8.

%"9j Yfmh\]b[']g'7cbbYWhYX. 'H\Y'Dck Yf'cZA i g]WVm8Ub]Y`'6UfYbVc]a &"'A ch]cbž'9a ch]cbž'UbX'@cj Y. 'H\Y'BUhi fY'cZ5fh]gh]WDYfZcfa UbW/'VmH\ca Ug'7Ufgcb'A Uf_ ' "'@YhhYfg'hc'U'Mci b['DcYhVmF U]bYf'F]`_Y

 $("`7 fYUh]j Y`7 c``UVcfUh]cb`VmJ YfU`>c\b!GhY]bYf) "`H\Y`F Ygh]g`Bc]gY`Vm5`YI `F cgg$

.

FYWca a YbXYX FYgci fWyg

Ch\Yf'fYgci fWg

6UWXž7"D"9"'f%-(-Ł"`9ggUmcb'h\Y'hfi Y'UfhcZd`Um]b['?YmVcUfX'±oghfi a Ybhg"'9X"'K "'A]hWXY``"'BYk 'Mcf_. Bcfhcb"'I BGK '@]VfUfm'G'+,\$#557%#5!%'6

 $\label{limit} $$ \b(x)^{h'}fUh fY''5`XYfg\chz'< Ubhgz'9b[`UbX/6i f]b[hcbz'] Yfa cbh'5g\[UhY''' BGK '@]VfUfm'@Yj Y``&'< Y`dNcbY'fJ''+, $$ 57 #7!*- Ł$

; UfWJUžA Ubi Y`"'f%, (Ł"5'Wca d`YhY'hfYUhJgY'cb'h\Y'UfhcZg]b[]b["'9X"'8cbU'X'DUgW_Y"'BYk 'Mcf_.'8U 7 Udc'DfYgg"'I BGK '@JVfUfm@Yj Y`-'fGE'+, ("-'&#('5Ł

 $< Y``UVm\~z>i~`]Ub"`f\&\$\$- Ł"`FYUX]b[`aig]WU``]bhYfdfYhUh]cb.`7~UgY`ghiX]Yg`]b`gc`c`d]Ubc`dYfZcfa~UbWY"\\ :~Ufb\Ua..`5q\[UhY"$

< i XgcbžF]WXUfX"'f% - (Ł"'Ghc`Yb'h]a Y. 'h\Y'\]ghcfmcZhYa dc'fi VUhc"'C I ZcfX. '7 'UfYbXcb'DfYgg"</pre>

A cbgcbž=b[f]X"'f% - *Ł"'GUm]b['gca Yh\]b[.'>Unn']a dfcj]gUh]cb'UbX']bhYfUWf]cb"'7\]WU[c.'I b]j Yfg]micZ 7\]WU[c'DfYgg"

< ck Uhz F "'f&\$\$- Ł" H\Y UfncZ: fYbW\ d]Ubc a i q]W'BYk < Uj Yb. MJY I b]j Yfg]lmDfYgg"

A Uff]bž'< Ybfm'' 7 \ Uff]Y 'D Uf_Yf' Ub X'' < cbYmgi \ \w_YYF cgY''. \ J c]\WY \ YUX]b[\ \zert Zcfa i \ \U'Ub X'a chj Y''' > ci fb U \ cZ \ \ \Y'gc\WYmZcf'A i g]\WH\YcfmJ c\ \"\ 'bc\"'' \ '5 \WWggYX': YVfi Ufm'\&\zert &\s\\) . \ \hd. \#k \ k \ "a \ hcga \ h'cf[\ \frac{4}{3}ggi \ Yg\ \alpha \ hc\"\&\"\ \"\ "a \ \ hc\"\\\"\ "" \ "a \ Uff]b\"\ ha \ \ \ \"

A cnUffizi@Ycdc`X"`5`ffYUfjgY`cb`f\Y`Z bXUa YbfU``df]bWjd`Yg`cZj]c`]b`d`Umjb["`&bX`YX"`C | ZcfXzC | ZcfXg\]fY/BYk `Mcf_,`C | ZcfX`l b]j Yfq]fmiDfYgg"

BYi a Ubbž: $fYXYf]W_-$ "'f% - ' Ł"'DYfZcfa UbW'DfUWf]W'g'cZh\Y'GYj YbhYYbh\'UbX'9][\hYYbh\'7Ybh\f]Yg" fI BGK '@]VfUfmG'+, %"(' \$-\$' &#%£'BYk 'Mcf_.'GW\]fa Yf'6cc_g"

DYfYg'8U'7cglUž'BYU; BYi a Ubbž': fYXYf]W_"'f%--' Ł"'DYfZcfa UbWY'DfUWfWYg'cZlh\Y'GYjY cZa

Gi Va]gg]cb cZ5ggYgga YbhHUg_g

Hi fb]h]b Gi Va]gg]cb

Image: Ybwei bhyfu'dfcv'ya k \yb'uhhya dhjb['hc'gi va]hmci f'Ugg][ba Ybhh\fci [\ 'Hi fb]h]bž'd'YUgY

Hy'Yd\cby'9| hy'fbu''Gi ddcfhcb'-',) '' ' ' %cf'Ya U]''h\Ya 'cb'Y! hy'fbu'hy'hgi ddcfh4 i bgk "YXi "Ui "''Gi ddcfh
\ci fg'UfY', .\$\$Ua '-'%\$.\$\$da 'cb'k YY_XUmg'UbX'-.\$\$Ua '-').\$\$da 'cb'k YY_YbXg'fl *) 'XUmg'U'mYUft'''=Z'mci
UfY'i bUV'Y'hc'gi va]hmci f'Ugg][ba YbhXi Y'hc'U'ZJi 'hk]h\ 'Hi fb]h]b'mci 'a Um'Udd'mZcf'Ub'Y! hy'bg]cbž'Vi hmci
a i ghfYhJ]b'mci f'h]W_Yhbi a VYf'Zfca '9! hy'fbU''Gi ddcfhfU'cb['k]h\ 'Ubmch\Yf'fy'Yj UbhXcW a Ybhgt'hc
]bWi XY'Ug'Yj]XYbW' hc'gi ddcfhmci f'Y! hy'bg]cb'Udd']WUh]cb"'=Zmci 'Ya U]''9! hy'fbU''Gi ddcfhmci 'k]'`
Ui hca Uh]WJ'`mfYW']j Y'U'h]W_Yhbi a VYfZ'Vi h]Zmci 'hY'Yd\cbY'mci 'k]``bYYX'hc'gdYW]Z]WJ'`mUg_'Zcf'cbY''
Hi fb]h]b'U'gc'dfcj]XYg'i dXUhy'g'cb'h\Y]f'gmghYa 'ghUh' g'cb'Hk]hyf''

; YbYfU`mž'UggYgga YbhiHug_g'a i ghVY'gi Va]hhYX'Y`YVWfcb]\WJ``mij]U'Y]h\Yf'Hi fb]h]b'cf'U'A ccX`Y Ugg][ba Ybh''=b']bgHJb\W'g'k \YfY'h\]g']g'bchdcgg]V`Yž']hk]```VY'gHJhYX'cb'mci f'\\circ i fgY'g'A ccX`Y'g]hY'k]h\U`hYfbUh]j Y'gi Va]gg]cb'XYHJ]`g"

cfi]bZcfa Uhjcbicbi\ckihcigi Va]hUgg][ba Ybhgicbi]bYij]UiA ccXiY.i\hdg.#gh XYbhi bgk "YXi "Ui #\ck! gi Va]hUgg][ba Ybha ccXiY

5 WUXYa]W<cbYglmUbX D`U[]Uf]ga

D`U[]Uf]ga i]gii g]b[ih\Yik cfXgicfi]XYUgicZch\YfgiUbXidfYgYbh]b[ih\Ya iUgimci fick b"i±i\WbihU_Yia Ubm Zcfa gžZfca iXYi]VYfUhYiW\YUh]b[ihciU\W]XYbhU`m\Wcdm]b[iZfca iUigci f\Wik]h\ci hiU\w_bck iYX[Ya Ybh'

I BGK '[fci dg'd'U[]Uf]ga ']bhc'h\Y'Zc``ck]b['WUhY[cf]Yg.

7 cdm]b[. I g]b['h\Y'gUa Y'cf'j Yfmg]a]'Uf'k cfXg'hc'h\Y'cf][]bU`'hYl hcf']XYU'k]h\ci h'UW_bck `YX[]b['h\Y gci fW' cf'i g]b['ei chUh]cb'a Uf_g"'H\]g']bWi XYg'Wcdm]b['a UhYf]U`gž']XYUg'cf'WcbW'dhg'Zfca 'U'Vcc_ž'Ufh]WYž fYdcfhcf'ch\Yf'k f]hhYb XcW a Ybhz'dfYgYbhUh]cbž'Wca dcg]h]cbž'Uffk cf_ž'XYg][bž'XfUk]b[ž'W]fWi]hfmž'Wca di hYf dfc[fUa 'cf'gcZk UfYž'k YVg]hYž']bhYfbYhz'ch\Yf'Y`YWfcb]WfYgci fW'z'cf'Ubch\Yf'dYfgcbfg'Ugg][ba Ybhk]h\ci h Uddfcdf]UhY'UW_bck 'YX[Ya Ybh''

₺Uddfcdf]UhY 'dUfUd\fUg]b[.'