

MUSC2703

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7cifgY[·]8YHJ]`g

7 fYX]hDc]bhg⁻(⁺

Gi a a UfmcZh\Y'7ci fgY

GiVYWri5fYU.? ge[UBW0Xad_S`UWr? ge[U7`eW_TW

=b°h\]g°dfUWNJWU``WcifgY`mci`k]``YIhYbX`mcif`UXjUbWYX`]bghfiaYbhU`žjcWU``cf`Wcadcg]h]cb°g_]``g`k]h\`cbY! hc!cbY`giddcfhZfca`U`gdYWJU`]ghihihcfžUbX`WcbhYIhiU`]gY`h\Y`Udd`]WUh]cb`cZh\cgY`g_]``g`h\fci[\

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5ggYgga Ybh'HJg_	K Y][\h	8iY`8UhY	GhiXYbhi@YUfb]b[CihWcaYgʻ5ggYggYX
9bgYa V`Y`Wcblf]Vi h]cbž dYfZcfa UbWfgždUfhWXYW_]b[hYgh	&\$1	Bch5dd`]₩VYY	(

Bc V`Y

: cif`Wf]h]eiYg`UfY`hc`VY`giVa]hhYX`]b`hchU`"`GhiXYbhg`g\ci`X`giVa]hUh`YUghcbY`Wf]h]eiY`]b`YUW\`cZhYfag %z`&`UbX`'_"`H\Y`Zcifh\`Wf]h]eiY`WUb`VY`giVa]hhYX`UhUbmh]aY`Xif]b[`h\Y`mYUf"

H\Y`W^{*}]hjei Yg`a i ghVY`gi Va]hYX`j]U`A ccX`Y`bc``UhYf`h\Ub`cbY`k YY_`UZhYf`h\Y`a UghYfWUgg`hc`k \]W\`h\Ym fY`UhY"`@UhY`dYbU`]hYg`k]``Udd`m'Zcf``UhY`gi Va]gg]cb"

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

5ggYgga Ybh' . DYfZcfa UbWY#dfYgYbHUh]cb

GHJfhXUHY.Bch5dd`]WUV`Y

@Yb[h\.'aUI]aia', 'a]bihYg

8YHJ]`g. DYfZcfa UbWV#dfYgYbHUHjcbg'k]```VY'WcbXi WHXXXi f]b['k cf_g\cd'gYgg]cbg']b'H%UbX H&"''=bghfi a YbHJ`]ghg'UbX'j cWJ`]ghg'k]``dYfZcfa 'cbY'Wca d'YhY']HYa žk \]WX 'a UmVY'U'a cj Ya YbhcZU'`Uf['Yf k cf_/Wca dcgYfgžg]a]`Ufmž'k]``dfYgYbhH\Y'dYfZcfa UbWY'cZcbY']HYa 'cf'a cj Ya Ybh''`6YWUi gY'h\Y'mdY'cZ UggYgga Ybh]g'X]gh]bW#zDYfZcfa UbWY#dfYgYbHUHjcbg'a Um]bWi XY'a UHYf]U''h\Uhk]```UddYUf'U['U]b']b'h\Y DYfZcfa UbWY'YI Ua]bUHjcb'cf'7 ca dcg]hjcb'dcfhZc']c']b'H' /\ck Yj YfžYUWX 'cZh\Y'h\fYY'HUg_g'-'hk c dYfZcfa UbWY#dfYgYbHUHjcbg'UbX'cbY'DYfZcfa UbWY'YI Ua]bUHjcb'cf'7 ca dcg]hjcb'dcfhZc']c'-a i gh]bWi XY gca Y'bYk 'a UHYf]U''''H\Y'dfYgYbHUHjcb'k]``]bWi XY'U'gdc_Yb']bHfcXi Whjcbž'UbX'k]``YY'UW&ca dUb]YX'VmU g\cfhigi a a Ufjg]b['XcW'a Ybh]bWi X]b['fYZ/fYbWYg'''H\Y']bHfcXi Whjcb'UbX'XcW'a Ybhk]``fYdcfhUbX a cb]hcf'h\Y'dYfgcbU`'d`Ub'cZUWhjj]mrZcf'h\Y'k \c`Y'cZh\Y'%&!WfYX]hWci fgYžXYj]gYX'VmYUWX 'gh'XYbh]b bY[chJUHjcb'k]h\`]g'cf`\Yf'gdYWJU']ghHi hcf''''': YYXVUV<u>U</u>. ''k f]HYb'fYdcfhg

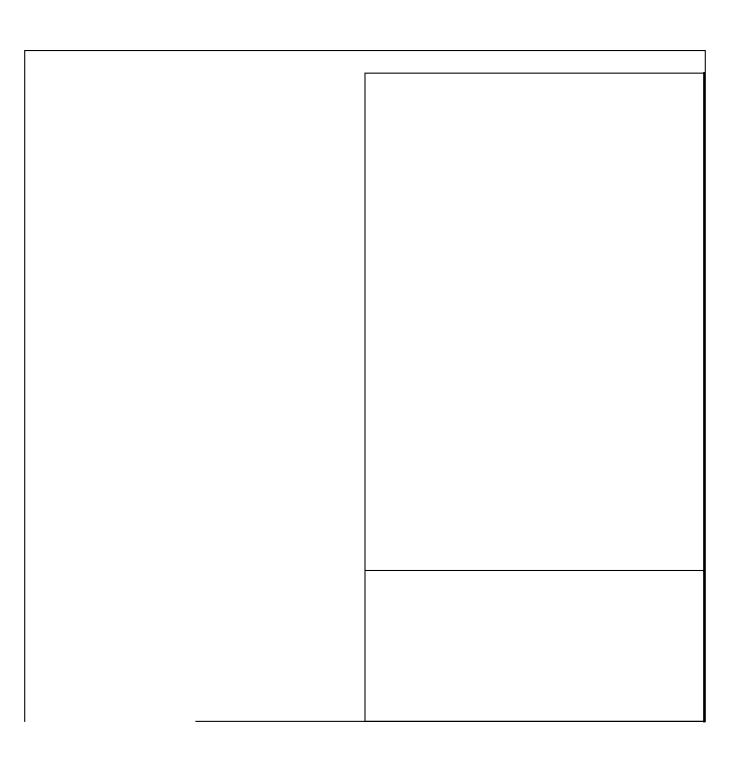
5XX]h]cbU``XYhJ]`g.

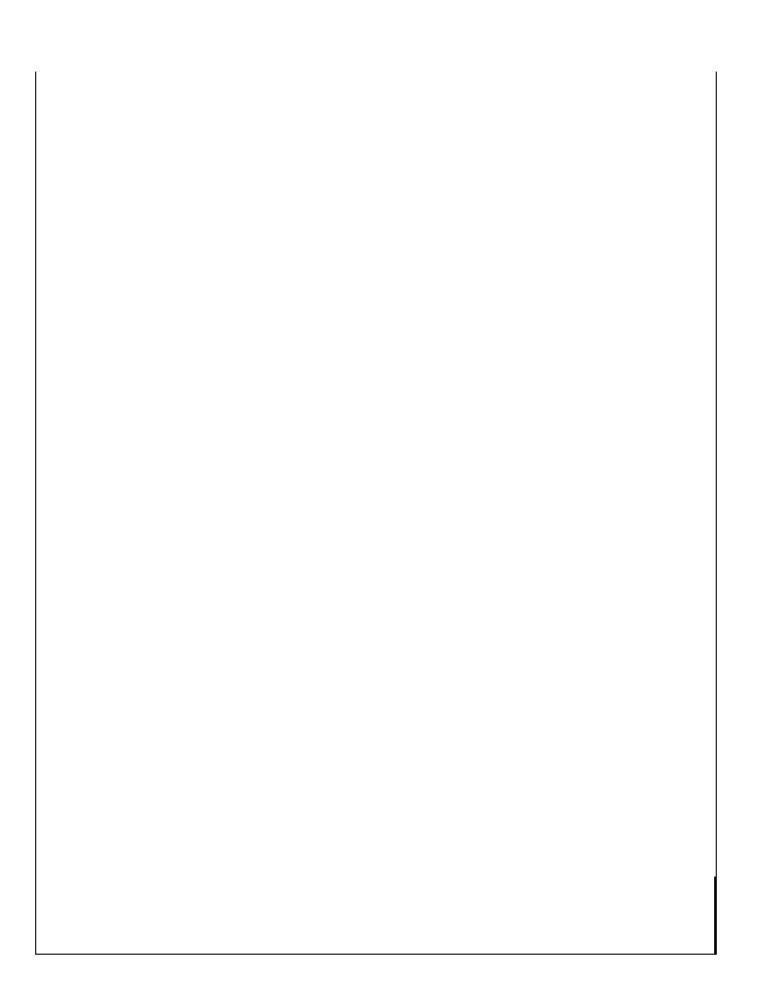
H\Y'dYfZcfa UbWY'dfYgYbHUhjcb'UggYgga YbhgWXYXi `Y'k]``VY'dcghYX'hc'A ccX`Y'Vmk YY_'' "

Ghi XYbhgʻa i ghigi dd`mU`Wcdmichih\Y`gWcfY`Zcf`h\]g`UggYgga Ybh'`H\Y`gWcfY`Wb`VY`Wc``YWhYX`Uhih\Y`YbX`cZ h\Y`WUgg"

Ghi XYbhgʻUfYʻfYgdcbg]V`YʻZcf`cf[Ub]g]b[`UbʻUWVca dUb]gh'Zcf`h\]gʻUggYgga Ybh'

hYW\b]WU``kcf_'Zfca_'h\Y`^Unn`gm``UVi g`XYj]gYX`Zcf`h\]g`Wci fgY"`H\Y`YI Ua_]bUh]cb`k]```U`gc`]bWi XY`U`g\cfh





FYgcifWYg DfYgWf]VYX`FYgcifWYg` <i XgcbžF "f% - +Ł"EfaW f[_W fZWZ[efack aXfW_ ba dgTSfa"7 Ua Vf]X[Y.7 Ua Vf]X[Y1 b]; Yfg]mDfYgg"

[`]gž`="f&\$\$*t"``FZWbWdxad_S`UWaXbabg/Sd_ge[Už: Ufb\Ua ž6i f]b[hcb.'5g\[Uh/

? fUa Yfž >" f%, , Ł" > [efW fa fZW_ge[U" BYk Mcf_. GW.]fa Yf"

@Uk gcbž7"/`7 fcggž>"f9Xg"Ł"f%-) Ł"FZW5S_Td[VYWUa_bS`[a` fa fZWU'Sd[`Wf"7Ua Vf]X[Y.'7Ua Vf]X[Y I b]j Yfg]miDfYgg"

@Y\a Ubbž@"f% () Ł"FZW[`fWdbdWfSf[a` aXea`Ye"BYk 'Mcf_.'8cjYf"

@Yj]bYžA "`f%-, - Ł" FZW<SI I B[S` a 4aa] žBYk "Mcf_. `G\Yf'A i g]W7 c"

@cW_k ccXž'5"< "`f%-, - Ł"`A YX]WU``dfcV`Ya g`cZa i g]WJUbg"`FZW@W 7` Y***S` V <agd S^aX? WV[U[` W %\$" ł \$\$#Ž\$\$) ž

A UfWXUbH < UmWcI žG"9"ž/ `K]`gcbž; "9"f% - &L"DYfgcbU`]hmiUbX`ghfYgg`]b`dYfZcfa]b[`Ufh]ghg"`BWdea` S'[fk S`V[`V[h[VgS^V[XWdW UWež% ž%\$%1%\$*, "

A cnUfhž`@''f‰+) *Ł'3 Fd‰f[eWa` fZW8g`VS_W fS^Bd[`U[b‰eaXH[a{` B′Sk[`Y'HfUbg`UhYX'UbX'fYdi V`]g\YX CIZcfX'UbX'BYk 'Mcf_.'CIZcfX'I b]j Yfg]hmiDfYgg'% (, 'UbX'%)%

A i g[fUj YžA "/ `G\Yfa Ubž6"`f&\$\$' Ł" BWXad_ [`Y 4cSZ_e"`7 Ua Vf]X[Y. 7 Ua Vf]X[Y1 b]j Yfg]miDfYgg"

BYi a Ubbž: "`f‰-' Ł"`BWd‰ad_S`UWbdSUf[UWe aXfZWeWhW fWW fZS`V W[YZfWW fZUW fgd[WežBYk `Mcf_. GWX]fa Yf"

DUfbWilhžF"/`AWD\Yfgcbž; "f&\$\$&L"FZWeU[WUWS`VbekUZa/aYkaX_ge[UbWdXad_S`UW,5dVSf[hWefdSfWY[WeXadfWSUZ[`YS`VWSd[`Y"CLZcfX.'CLZcfX'Lb]jYfg]miDfYgg"

D]bcž8"`f%, \$L"`FZWU'Sq``WfS`VU'Sq``Wfb'Sk[`Y"`@cbXcb.`AUWa]``Ub"

DchtYfž>"f9X"Ł"f&\$\$\$L"FZW5S_TdVYWUa_bS` [a` fa e[`Y[`Y"7Ua Vf]X[Y.'7Ua Vf]X[Y'I b]j Yfg]hmDfYgg"

E i Ubmž'>">"A` B'Sk[`Y fZW8'gfWf%+)&'LHfUbg"'9Xk UfX'F Y]``m'HfUbg`UhYX'UbX'fYdf]bhYXž'BYk 'Mcf_, 'H\Y : fYY'DfYgg'% **

F]b_ž>"`f9X"Ł"`f&\$\$) Ł"? ge[US^bWdXad_S`UW EfgV[We[__ge[US^[`fWdbdWfSf[a`ž7UaVf]X[Y.`7UaVf]X[Y I b]j Yfg]hmDfYgg"

F cgYbž7 "'f&\$\$&L"'4WWZahW Re b[S` a ea` SfSe, S eZadf Ua_ bS` [a` žBYk '< Uj Yb. 'MU'Y'I b]j Yfg]miDfYgg"

F cgYbV`i a ž`G"'f‰ - &Ł"`BWb&ad_S`UWbdSUf[UWe [`U'See[U b[S` a _ ge[U"'6`cca]b[hcb. '€X]UbU`I b]j Yfg]hm DfYgg"

GWXYb_Yfž<Y]bf]WX`f%-'' Ł8[hWYdSbZ[US`S1keWežFYdiV]g\YX`BYk`Mcf_,`8cjYf`DiV`]WUh]cbg``f%-*-Ł"

GYUhcbž8ci [`Ug"`f1%, ' Ł"FZWSdfea`Y, S dNeWSdJZS`V [`Xad_Sf[a` Yg[VW'BYk 'Ncf_.; Uf'UbX"

 $\label{eq:generalized_genera$

HUfig_]bžF]W\UfXžf%--) Ł"FWjfS`VSUf, 7eeSkea`_ge[US`VbWb%ad_S`UWzCIZcfX.'CIZcfX'Ib]jYfg]hm DfYgg"

Hi f_ž8"; "`= 'Sh[WeUZg W`f%, &L"`HfUbg"`F Uma cbX`< U[[\ž@]bWc`b.`I b]j Yfg]micZBYVfUg_U`DfYgg"

K YghbYmžK "'f&\$\$' Ł"FZWbWdWUfi da`Y`afW'BYk 'Mcf_.'5a UXYig'DfYgg"

<u>\hhdg.##k k k "`]VfUfm'i bgk "YXi "Ui #gh Xm</u>

- ł: cf[·]g]b[Yfg.
- \htd.#k k k "UhUbhUj c]WY`Yggcbg"Wca #j cWU`hYW\b]ei Y"\ha
- \hd.#kkk"UighfU`]Ubaig]WWYbhfY"Wca"Ui#
- \htd.#kkk&"g]VU"Z]#\Ufを]hhY`i#bXYI"d\d3]X1&/`U1Yb

\htdg.##gcWjYhma i gjWf\Ycfm'cf[#gcWjYhjYg#bhYfYgh#dYfZcfa UbWYUbU`mg]g#/jV`]c[fUd\m

\hdg.#kkk"`YUfb^UnnghUbXUfXg"Wca#

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

Am91dYf]YbWY`gifjYm"

Gi Va]gg]cb cZ5ggYgga YbhHUg_g

Gi Va]gg]cb cZ5ggYgga YbhHUg_g

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

#mci YbWci bHYf'U'dfcV'Ya 'k \Yb'UHYa dhjb['hc'gi Va]hmci f'Ugg][ba YbhH\fci [\ 'Hi fb]hjbž'd'YUgY HY'Yd\cbY'9I HYfbU'`Gi ddcfhcb'- ' ,) '' ' '%cf'Ya U]`'h\Ya 'cb'YI HYfbU'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'mYUfŁ"'#mci UfY'i bUV'Y'hc'gi Va]hmci f'Ugg][ba YbhXi Y'hc'U'ZJi 'hk]h.'Hi fb]hjb'mci 'a UmUdd`mZcf'Ub'YI HYbg]cbž'Vi hmci a i ghfYhU]b'mci f'hjW_Yhbi a VYf'Zfca '9I HYfbU'`Gi ddcfhfU'cb['k]h.'Ubmch\Yf'fY'Yj UbhXcW a YbhgE'hc]bWi XY'Ug'Yj]XYbWY hc'gi ddcfhimci f'YI HYbg]cb'Udd`]WUh]cb"'#mci 'Ya U]`'9I HYfbU'`Gi ddcfhimci 'k]`` Ui hca UhjWU'`mfYWY]j Y'U'hjW_Yhbi a VYfž'Vi h]Zmci 'HY'Yd\cbY'mci 'k]``bYYX'hc'gdYWJZWU``mUg_'Zcf'cbY" Hi fb]hjb'U`gc'dfcj]XYg'i dXUHYg'cb'h\Y]f'gmgHYa 'gfUhi g'cb'Hk]hYf"

; YbYfU``mž'UggYgga YbhHUg_g'a i ghVY'gi Va]HHXXYYWYfcb]WU``mj]U'Y]H\Yf'Hi fb]h]b'cf'U'A ccX`Y Ugg][ba Ybh''=b`]bgHUbWYg'k \YfY'H\]g']g'bchdcgg]V`Yž']hk]``VY'gHUHYX'cb'mci f'Wci fgY'g'A ccX`Y'g]HY'k]H\ U`HYfbUh]j Y'gi Va]gg]cb'XYHU]`g''

: cf`]bZcfa Uh]cb`cb`\ck 'hc`gi Va]hUgg][ba Ybhg`cb`]bY`j]U`A ccX`Y.`\hhdg.##ghi XYbh'i bgk "YXi "Ui #\ck! gi Va]hUgg][ba Ybha ccX`Y

5WUXYa]W<cbYghmUbX^D`U[]Uf]ga

D`U[]Uf]ga `]g`i g]b['h\Y`k cfXg`cf`]XYUg`cZch\Yfg`UbX`dfYgYbh]b['h\Ya `Ug`mci f`ck b"`+i\WUb`hU_Y`a Ubm Zcfa gžZfca `XY`]VYfUhY`W\YUh]b['hc`UVW]XYbhU``mWcdm]b['Zfca `U`gci fWf`k]h\ci hUW_bck `YX[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 Yfmig]a]`Uf'k cfXg'hc'h\Y'cf][]bU``hYI h'cf']XYU'k]h\ci hUW_bck `YX[]b['h\Y gci fW'cf'i g]b['ei chUh]cb'a Uf_g"'H\]g'U`gc'Udd`]Yg'hc']a U[Ygž'UfhUbX'XYg][b'dfc'YWrgž'Ug'k Y```Ug dfYgYbhUh]cbg'k \YfY'gca YcbY'dfYgYbhg'Ubch\Yf'g']XYUg'cf'k cfXg'k]h\ci hWfYX]h"

=ðUddfcdf]UhY`dUfUd\fUg]b[..7\Ub[]b[`U`ZYk`k cfXg`UbX`d\fUgYg`k \]`Y`a cghmfYhU]b]b[`h\Y`cf][]bU` ghfi Whi fY`UbX#cf`dfc[fYgg]cb`cZ]XYUg`cZh\Y`cf][]bU`ž`UbX`]bZcfa Uh]cb`k]h\ci hUW_bck`YX[Ya Ybh`H\]g`U`gc Udd`]Yg`]b`dfYgYbhUh]cbg`k \YfY`gca YcbY`dUfUd\fUgYg`Ubch\Yf*g`]XYUg`cf`k cfXg`k]h\ci hWfYX]hUbX`hc d]YW]b[`hc[Yh\Yf`ei chYg`UbX`dUfUd\fUgYg`]bhc`U`bYk`k \c`Yžk]h\ci hUddfcdf]UhY`fYZYfYbW]b[`"

7 c``i g]cb. 'k cf_]b['k]h 'ch Yfg'Vi hdUgg]b['cZh Y'k cf_'Ug'U'dYfgcb'g']bX]j]Xi U``k cf_"'7 c``i g]cb'U`gc]bWi XYg'dfcj]X]b['mci f'k cf_'hc'Ubch Yf'gh XYbhVYZcfY'h Y'Xi Y'XUHYžcf'Zcf'h Y'di fdcgY'cZh Ya d`U[]Uf]g]b['UhUbmh]a Yž'dUm]b['Ubch Yf'dYfgcb'hc'dYfZcfa 'Ub'UWUXYa]WhUg_žghYU`]b['cf'UWei]f]b[Ubch Yf'dYfgcb'g'UWUXYa]Wk cf_'UbX'Wcdm]b[']hž'cZYf]b['hc'Wca d`YhY'Ubch Yf'dYfgcb'g'k cf_'cf'gYY_]b[dUma YbhZcf'Wca d`Yh]b['UWUXYa]Wk cf_"

=bUddfcdf]UhY`W]hUh]cb.`7]h]b[`gcifWYg`k\]W\`\UjY`bchVYYb`fYUXžk]h\cihUW_bck`YX[]b[`h\Y`~gYWcbXUfm~ gcifWY`Zfca`k\]W\`_bck`YX[YcZh\Ya`\Ug`VYYb`cVhU]bYX"

8id`]WUh]cb`fl'gY`Zld`U[]Uf]ga "Ł`gi Va]hh]b[`mcif`ckb`kcf_ž`]b`k\c`Y`cf`]b`dUfhž`k\YfY`]h\Ug`dfYj]cig`m VYYb`dfYdUfYX`cf`gi Va]hhYX`Zcf`Ubch\Yf`UggYggaYbhcf`WcifgY`UhIBGK`cf`Ubch\Yf`ib]jYfg]hm"

7 cffYWhfYZYfYbWjb[dfUWfjWYg.

• DUfUd\fUg]b[žgi a a Uf]g]b[žYggUmk f]h]b['UbX'h]a Y'a UbU[Ya Ybh