



MUSC4104

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HYfa `H\ fYY`##`&\$&\$

GWXcc`cZHAY`5ftg`UbX`A YXJU`#`I BGK `5ftg`UbX`GcWJU`GWYbWg

7 ci fgY`Cj Yfj]Yk

GHJZZ`7cbHJW`8YHJ`g

7cbj Ybcfg

B Ua Y	9a Uj`	5j Uj`UVj`]m	@cWjhcb	D\cbY
DfcZ5bXFYk GW`i`m	U"gw`i`m4 i b`gk "YXi "Ui	H\i fg"(!*da	K YVg`h`f`@Yj Y` &	- ' ,) ` (,) *

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F cca ` ` %&`z`@Yj Y`` ž F cVYfhK YVg`h`f`6i]X]b[`fj %(` Ł

D\cbY.`f\$&Ł`- ' ,) ` (,) *

9a Uj]: [gUa 4 i b`gk "YXi "Ui](#)

K YVg]hY: [k.k.k "Uf`rg"i b`gk "YXi "Ui #gUa](#)

H\Y`GW`cc``cZ`h`Y`5f`rg`UbX`A`YX]U`k`ci`X``_Y`h`c`F`Ygd`Y`W`Z` ``m5`W`_bck`YX[`Y`h`Y`HfUX]h]cbU``7`i`g`h`c`X]Ubgž`h`Y`6`Y`X`Y[`U`f`P`Y`bg]b[`h`c`b`W`_a`d`i`g`Ł`ž;`U`X][`U`f`r`]m`U`b`X`5`f`h`v`8`Y`g][`b`7`U`a`d`i`g`Y`g`Ł`U`b`X`h`Y`B`[`i`b`b`U`k`U`d`Y`c`d`Y`f`b`i`g`h`f`U]U`b`8`Y`Z`Y`b`V`W`:`c`f`W`5`W`_X`Y`a`m]b`7`U`b`V`Y`f`f`U`Ł`c`Z`h`Y`U`b`X`g`k`Y`f`Y`Y`U`W`X`W`_a`d`i`g`c`Z`I`B`G`K`]g`c`W`_h`Y`X`"

7 ci fgY'8YHJ>`g

7 fYX]hDc]bqg`*`

Gi a a UfmcZhY'7 ci fgY

4 5Xj UbWwX'Gh X]Yg]b'A i g]W<]ghcfm/`7 i`h`fY`&`mci`k`j`Udd`m_bck`YX[Y`UbX`g_]`g`XYj Y`cdYX`]b
Y`YWj] YgZ`Vc`fY`Vci fgYg`UbX`gdYwU`]gUhc]b`gdYwZ]Wwci fgYgZ]b`gi`gU]bYX`Yb[U[Ya`Ybhk`]h`U`g]b[`Y`hcd]Vz
k` \]W`k` j`VY`YI`d`cfYX`]b`XYdH`" 4`h`Y`YUf`migU[Yg`cZ`h`Y`Vci fgY`mci`k`j`ci`h]bY`Ub`YI`]gh]b[`VcXmcZ
gW`c`Ufg`d`VmiUggYa`V`]b[`UbX`Ubb`c`h]h]b[`U`V]V`]c[fUd`m`z`k` \]W`k` j`Z`c`fa` `h`Y`V`Ug]g`cZ`U`d`fYg`Yb`h]h]b[`h`U`h
]b`f`c`Xi`W`g`mci`f`hcd]W`h`h`Y`W`Ugg`" H`Y`W`b`f`U`d`U`f`h`c`Z`h`Y`Vci fgY`k` j`VY`h`Y`Vci`U`V`c`f`U`h]`Y`a`Y`b`h`c`f]b[`c`Z
mci`f`hcd]Vz]b`d`fYd`U`f`U`h]h]b[`Z`c`f`h`Y`Z]b`U`Y`g`g`U`m`H` \]g`a`Y`b`h`c`f]b[`k` j`U`g`c`Y`b`U`V`Y`mci`h`c`f`U`b`g`Z`f`h`Y
Vci`U`V`c`f`U`h]`Y`g_]`g`h`U`h`mci` \Uj`Y`XYj`Y`cd`YX`Ug`U`a`i`g]W]U`b`h`c`g`W`c`U`f`m`f`Y`g`U`f`W` `UbX`W`]h]W]g`" H` \`f`c`i`[` \
h`Y`Vci`b`g`f`i`W]h]b`c`Z`U`V]V`]c[fUd`m`i`UbX`Vci`U`V`c`f`U`h]`Y`a`Y`b`h`c`f]b[`c`Z`mci`f`hcd]W`mci`k` j` \`c`b`Y`h`Y`W`]h]W` `UbX
g_]`g`Z`c`f`k`f]h]b[`U`gi`g`U]bYXz`XYHJ]YXz`UbX`k`Y`"gi`ddc`f`YX`Uf[i`a`Y`b`h`

7 ci fgY`@YUfb]b[`Ci hVca Yg

%`I`g`Y`UXj`UbWwX`fYg`Y`U`f`W`a`Y`h`c`X`g`UbX`Uf[i`a`Y`b`h`c`gi`ddc`f`h`Y]f`f`c`Y`g`U`g`a`i`g]W`W`f`Y`U`h`c`f`g`z
g`W`c`U`f`g`UbX`UXj`c`W]h]g`]b`h`Y`Vci`a`a`i`b]m`f`
&`8`f`U`k` `c`b`Ub`YI`h`b`g]j`Y`_`b`c`k`YX[Y`c`Z`f`Y`d`Y`f`r`c]f`Y`g`z`g`c`W]U` `UbX` \]g`h`c`f]W` `Vci`b`h`YI`h`g`z`UbX`]X`Y`c`c`[]Y`g`U`g
W`]h]W]`m`UbX`g`c`W]U`m`Y`b[U[YX`a`i`g]W]U`b`g`"
'`" `k`c`f`_`W`]h]W]`m`k`]h`c`h`Y`f`g`z`d`f`Y`g`Y`b`h]b[`g`W`c`U`f`m]X`Y`U`g`Z`c`f`X`Y`V`U`h`z`X]g`W`g`g]c`b`z`UbX`Vci`a`a`Y`b`h`

HYUWw]b[`GhFUH[]Yg`

H` \]g`Vci`fgY`d`f`c]`X`Y`g`U`Z`c`f`i`a`Z`c`f`g`h`X`Y`b`h]h`c`k`c`f`_`k`]h`]X`Y`U`g`z`a`Y`h`c`X`g`z`f`Y`d`Y`f`r`c]f`Y`UbX`h`Y`W`b]e]i`Y`g`h`U`h
 \Uj`Y`V`Y`Y`b`X`Y`j`Y`cd`YX`]b`d`f`Y`j`c`i`g`Vci`fgY`g`" H`Y`Z`c`W]c`Z`h`Y`Vci`fgY`U`f`Y` `W`c`c`g]b[`U`h`c`d]W`Z`c`f`]b]j`Y`g`h]`U`h]c`b/
Z]b`X]b[`U`d`d`f`c`d`f]U`H`f`Y`g`c`i`f`W`g`Z`c`f`h`U`h]b]j`Y`g`h]`U`h]c`b`/`V`f]b[]b[`a`i`g]W`U`b`X`]X`Y`U`g`h`c[Y`h`Y`f`]b`U`Vci`Y`f`b`h`z
a`Y`h`c`X]W]Z`c`fa`"

H` \Y`Z]f`g`h`c`Z`h`Y`g`Y`k` j`VY`X`Y`j`Y`cd`YX`]b`h`Y`Y`U`f`m`i`d`U`f`h`c`Z`h`Y`Vci`fgY`z`V`m`i`a`c`X`Y`]b[`h`Y`g`W`c`d`Y`c`Z`d`c`g]V`Y
h`c`d]V`g`z`Z`c`f`YI`U`a`d`Y`"Gi`W`X]g`W`g`g]c`b`g`k` j`U`j`a` `h`c`k`U`f`X`g`h`Y`Z]b`U`Z`c`fa`g`f[Y`b`f`Y`g`Z`c`f`h`Y`D`f`c`Y`W]`H` \]g`Z`c`W`g`k` j`VY`YI`h`b`X`Y`X`h`f`c`i`[` \`h`Y`d`f`Y`g`Y`b`h]h]c`b`g`z`UbX`h`f`c`i`[` \`c`b]`c]b[`W`U`g`g`U`W]j`]h]Y`g`"

H` \Y`g`Y`W`c`b`X`Z`c`W`g`k` j`W`U`b[Y`h`f`c`i`[` \`c`i`h`h`Y`h`f`a`z`U`g`g`h`X`Y`b`h]h]X`Y`j`Y`cd`U`V`Y`h`f`f`g`Y`b`g`Y`c`Z`h`Y]f`d`f`c`Y`W]` 4
k` j`]b`W]i`X`Y`d`f`U`W]W]`g`c`i`h]c`b`g`h`c`h`Y`X]Z]W`h]Y`g`h`U`h`g`h`X`Y`b`h]h]k` j`]i`b`Vci`Y`f`]b`d`i`h]b[`h`c[Y`h`Y`f`h`Y`j`f
V]V`]c[fUd` \]Y`g`" H` \]g`Z`c`W`g`k` j`]b`W]i`X`Y`W`U`g`g`Y`g`]b`V]V`]c[fUd` \]W`X`Y`j`Y`c`d`a`Y`b`h`z`U`b`b`c`h]h]c`b`z`UbX
a`UbU[Ya`Y`b`h`z`g`h`X`Y`b`h]h]d`f`Y`g`Y`b`h]h]c`b`g`z`U`g`k`Y`"U`g`h]a`Y`Z`c`f`X]g`W`g`g]b[`h`Y`Vci`b`h`Y`b`h`c`Z`V]V`]c[fUd` \]W
a`U`h`f]U`g`f]b`W]i`X]b[`f`Y`W`c`f`X]b[g`k`"

H` \Y`h`f`X`Z`c`W`g`]b`_`g`h`c[Y`h`Y`f`j`U`f]c`i`g`U`g`d`Y`W]g`c`Z`h`Y`Vci`fgY`z`]b`W]i`X]b[`h`Y`g`h`X`Y`b`h]d`f`Y`g`Y`b`h]h]c`b`g`z`h`Y
k`f]h]b[`c`Z`X`f`U`Z`g`z`UbX`h`Y`Vci`a`d]U`h]c`b`#`U`b`b`c`h]h]c`b`c`Z`V]V`]c[fUd` \]Y`g`z`h`c`Vci`b`b`Y`W]i`Y`U`f`m`i`W`U`g`g`Y`g`k`]h`Z]b`U`
d`f`c`Y`W]g`" H` \Y`U`j`a`]g`h`c` \Y`d`g`h`X`Y`b`h]h]h`c`Z`c`fa`Vci`Y`f`Y`b`h]d`f`Y`g`Y`b`h]h]c`b`g`z`Y`U`X]b[`h`c`h`Y`j`f`Z]b`U`d`f`c`Y`W]`H` \Y`
V`U`g]g`c`Z`h]g`Z`c`W`g`]g`h`U`h`g`h`X`Y`b`h]h]k` j`] \Uj`Y`h]a`Y`h`c`g`U`f`Y` `UbX`X]g`W`g`g`h`Y`j`f`Z]b`X]b[g`U`g`h`Y`m`i`X`Y`j`Y`cd`z
k`c`f`_]b[`Vci`Y`W]j`Y`m`i`c`X`Y`d`Y`b`i`b`X`Y`f`g`h]b`X]b[g`c`Z`a`Y`h`c`X`g`z`f`Y`d`Y`f`r`c]f`Y`g`UbX`c`h`Y`f`Y`g`c`i`f`W`g`z`]b`U`W]h]W]`
a`U`b`b`Y`f`"

H` \Y`U`g`g`Y`g`g`a`Y`b`h]h]g`i`ddc`f`h`Y`g`Y`Z`c`W]z`UbX`d`f`c]`X`Y`c`ddc`f`i`b]m`i`Z`c`f`d`Y`Y`f`[i`]X`U`b`W`z`]b`U`X`X]h]c`b`h`c`[i`]X`U`b`W`
UbX`Z`Y`X`V`U`W`_`Z`c`a` `h`Y`Vci`fgY`Y`W]i`f`Y`" H` \Y`g`Y`a`]b`U`f`Z`c`fa`U`h` \U`g`V`Y`Y`b`W`X`c`g`Y`b`h`c`d`h]a`]g`Y`Z`YI`]V`]h]m`i`c`Z`

hYUW]b['UbX ``YUfb]b['dfcW'ggYg"

5ggYgga Ybh

5ggYgga YbhHUg_g`

5ggYgga YbhHUg_	K Y][\h	8i Y'8UHŸ	Gh XYbh@YUfb]b[Ci hŸa Yg'5ggYggYX
5bbchUHŸX`V]V`]c[fUd\m	%)	%&#/\$#&\$&\$`\$) . \$\$`DA	%ž&
DfYgYbhUH]cb`	&\$)	K YY_g`+'hc`%\$`]b`WUgg	&ž
Dfc YWŸ) \$)	Bch5dd`]WUV`Y	%ž&
A Ybhcf]b[`	&\$)	Bch5dd`]WUV`Y	%ž

5ggYgga Ybh8YHU]`g

5ggYgga Ybh%`5bbchUHŸX`V]V`]c[fUd\m

GhUfhXUHŸ. Bch5dd`]WUV`Y

@Yb[h. `%%\$`\$`k`cfXg`cZUbbchUH]cbg`UbX`%\$`gci`fWg

8YHU]`g.

Gh XYbhg`k`]`Ÿa`d`Yh`Ub`UbbchUHŸX`V]V`]c[fUd\micb`h`Y]f`WkcgYb`hcd]Wž`hc`VY`dfYgYbhŸX`]b`k`f]hŸb`Zcfa

8 588 HCBZMCI A I GHDF 9G9BH'5 HCD=7 DF CDCG5@B H<9 K 99? '&'G9A B5F "H\ci [\ 'bc
a Uf_g UfY Ugg[bYX X]fYWhm'fc 'hY 'fcd]Wdfcdcgu'zZ]i fY 'fc 'gi Va]h]hk]''fYgi 'h]b 'UfY 'dYbU'h]Yg VY]b[
Udd]YX'fc 'hY '5bbchUfX'6]V]c[fUd\m'

Gi Va]gg]cb 'bchYg. 7 Ugg dfYgYbH]cb'cb', 'C WfcVYf'UbX'gi Va]gg]cb'cb'A cbXUmz%'&'C WfcVYf'&\$&\$'Vm
) da "

Hi fb]h]b'gYh]b[. H\]g Ugg[ba Ybh]g'gi Va]hYX'h'fci [\ 'Hi fb]h]b'UbX'ghi XYbhg'WU'g'Y'Hi fb]h]b'g]a]Uf]m
fYdcfmg"

5ggYgga Ybh&. DfYgYbH]cb

GHUfhXUfY. Bch5dd]WU'Y

@Yb[h. '%\$'a]bi hYg dfYgYbH]cbz%'\$!%) 'a]bi hYg'X]gW gg]cb

8YhU]g.

8fUzidfYgYbH]cb" 9UW'ghi XYbhk]''[]j Y'U'gYa]bUf dfYgYbH]cbg'cZU'XfUZhcZ'hY]f' d'fc'YW'5'k f]hYb
j Yfg]cb'k]''U'gc'VY'gi Va]hYX"

æ a YX]UfY']b!WUgg'ZYXZcfk UfX#ZYXVUW_z'UbX'bchYg'cb'gi Va]hYX'j Yfg]cb"

5XX]h]cbU'XYhU]g.

9UW'ghi XYbhk]''[]j Y'U' dfYgYbH]cb'ci h]b]b['hY]f' d'fc'YW'f5ggYgga YbhHUg_' 'E'Ug'U'k cf_']b' d'fc[fYgg
UbX'dUf]W]dUfY']b'hY'X]gW gg]cb'cZ'hY]f'k cf_' "DfYgYbH]cbg'k]''hU_Y'd'UW']b'k YY_g'+!'%'\$' @Yb[h'z%'\$
a]bi hYg'd'i g:'%\$!'%) 'a]bi hYg'Zcf'a Yb'f'YX'X]gW gg]cb'f5ggYgga YbhHUg_' ('E'5'k f]hYb'j Yfg]cb'cZ'hY
dfYgYbH]cb'a i ghVY'gi Va]hYX'fc'A ccX'Y Vm) da 'cb'hY'A cbXUmVYZcfY'hY' dfYgYbH]cb]g []j Yb" 'H\]g
j Yfg]cb'a UmVY']b'dc]bhZcf'a 'UbX'a Umi gY 'Dck Yf' d'c]bhg']XYg"

5ggYgga Ybh' . Dfc YW'h

GHUfhXUfY. Bch5dd]WU'Y

@Yb[h. ' '\$\$\$'k cfXg

8YhU]g.

9ggUmcb'gY'ZgY'YW'Y'h'd]W!' '\$\$\$'k cfXg":]bU'UggYgga YbhHUg_"

9ggUm'g'k]''VY'a Uf_YX'UbX'fYh fbYX'k]h'ZYXVUW_

5XX]h]cbU'XYhU]g.

Gh XYbngXYj]gYžfYgYUfWk`UbX`dfYgYbhUb`YggUmihUhYI d`cfYg`cbY`cf`a`cfY`_Ym]XYUg`]b`fY`Uh]cb`hc`a`i`g]W
UbX`]rg`gcW]U`WcbhYI h`XYU`mž`hd]Wg`k`]`U`gc`XfUk`cb`h`Y`X]gW`gg]cbg`]b`k`YY`g`%`-`&`UbX`fY`UH`hc`h`Y
Zi`f`gYa`]bUf`hYa`Yg`[`]j`Yb`]b`k`YY`g`%`-`).`7`cbZ]W`5ddfcdf]U]cbž`fUX]h]cbž`Vcfffk`]b[`ž`h`YZh/
9bj`]fcba`YbhUbX`UbXgW]dY/UbXž`@cj`Y`YhW

H\Y`hd]WWc]W`]g`ei`]h`cdYb`Vi`hgi`V`YWhc`Uddfcj`U`Vmi`h`Y`7`cbj`Ybcf`5g`U`[`i`]XYž`nci`a`UmWk`ccgY`hc

9UWk`gh XYbhfhAY`a YbhYYE`Ug`VYYb`Ugg][bYX`U`gh XYbha Ybtef`5`gh XYbhK`@@BCH`VY`hAY]f`a Ybtef`g`
a Ybtef`H`i`g`YUWk`gh XYbhk`j`VY`cb[`hc`hk`c`dU]fgz`cbY`Ug`U`a Ybtef`UbX`cbY`Ug`U`a YbhYY`H`AYgY`UfY`
cf[Ub]gYX`Ug[`fci`dg]b`A`ccX`Y`H`AY`[`fci`d`k`j`Uj`Y`hAY`Z`ck`j]b[`bUa`Y`gfi`W`fY`A`YbhYY`B`5A`9z`
A`Ybtef`B`5A`9`

HAY`UggYggUVY`fYei`j]fYa`Ybtg`cZhAY`a`Ybtef`a`YbhYY`fY`Uhc]cbg`d`

%`HAY`a`YbhYY`a`i`ghgi`Va`j]hUj`Yfg]cb`cZhAY]f`8`fUziDfYgYb]h]cb`f5`ggYgga`YbhHUg`_`&E`hc`hAY`A`ccX`Y`
[`fci`d`hAY`mig`UfY`k`j]h`hAY]f`a`Ybtef`Vm)`"\$`\$`DA`c`ZhAY`A`cbXUmdf]cf`hc`hAY`dfYgYb]h]cb`"H`AY`m`
g`lci`X`U`gc`gi`Va`j]h`hAY]f`Ubbch]hYX`V]V]c[`fUd`l`m`5`g`U`a`YbhYY`mci`a`i`gh`BCH`VY`U`hYz`Ug`h`g`k`j`
]a`dUW]hgYf]ci`g`mcb`hAY`k`cf`_`cZmci`f`a`Ybtef`"DYbU]h]Yg`k`j`VY`XYXi`W`hX`Z`ca`mci`f`dfYgYb]h]cb`]Z`
mci`UfY`U`hY`"

&`HAY`a`Ybtef`g`lci`X`fYj`jYk`hAY`8`fUziDfYgYb]h]cb`cZhAY]f`a`YbhYYz`df]cf`hc`hAY`dfYgYb]h]cb`"H`AY`
a`Ybtef`g`lci`X`dfYgYb]h]cb`hYg`z`j`U`A`ccX`Yz`cb`hAY]f`fYj`jYk`cZhAY`A`YbhYY`g`k`cf`z`df]cf`hc`
hAY`dfYgYb]h]cb`"H`AY`g`b`ch`g`g`lci`X`]b`W`i`XY`dc]b]g`fU]gYX`k`j]h`hAY`a`YbhYY`UbX`gi`[`[`Ygh]cbg`
a`UXY`"H`AY`mig`lci`X`XYa`cbg]fU`h`h`U`h`hAY`a`Ybtef`U`g`Z]a`j]Uf]nYX`hAYa`gYj`Yg`k`j]h`gca`Y`cZhAY`
]hYfU`h`fY`hAY`a`YbhYY`U`g`i`gYX`"

'`" `HAY`a`Ybtef`g`lci`X`YUX`X]gW`gg]cb`U`h`hAY`a`YbhYY`g`dfYgYb]h]cbz`V`ca`a`YbhV`cbg]f`i`W`j`Y`mcb`hAY`
dfYgYb]h]cbz`UbX`gY`Y`_`WUf]Z]W]h]cb`cZhAY`a`YbhYY`g`Uf[`i`a`Ybh`"

HAY`UVcj`Y`fYdfYgYb]h]hAY`UggYggUVY`V`ca`dcbYbhcZhAY`a`Ybtef`a`YbhYY`fY`Uhc]cbg`d`"6`i`h`mci`g`lci`X`
W]ffm`hAY`a`Ybtef`a`YbhYY`fY`Uhc]cbg`d`Z`f`hAY`f`UbX`Yb[`U[`Y`k`j]h`X]gW`gg]cb`UbX`Yi`W`Ub[`Y`cZ]XYUg`cb`mci`f`
hc]d]W`@]_`Yk`j]gYz`]bZ`fa`U`Z`YXVUW`_`UbX`V`cbg]f`i`W`j`Y`W]h]W]ga`j]g`YbV`ci`fU[`YX`h`fci`[`lci`h`

h`UXX]h]cbz`Z`f`YUWk`G`Ya`j]bUf`]b`k`YY`g`+`!`%\$`Z`Y`Yfmghi`XYbh]g`fYei`j]fYX`hc`U`j`Y`Yi`Ua`j]bYX`U`h`Y`UghcbY`cZ`
hAY`gci`fW`g`j]ghYX`]b`hAY`Ubbch]hYX`V]V]c[`fUd`l`m`cZ`U`h`Y`UghcbY`cZ`hAY`gh`XYb]g`dfYgYb]h]b[`"H`AY`gci`fW`
a`UmVY`U`d`UdYf`cf`U`Vcc`_`W`Ud`hYf`cf`U`a`i`g]W`k`cf`z`]b`Y]hYf`gW`efY`cf`fYV`cfYX`Z`fa`"G`h`XYb]g`k`j`VY`
Ug`YX`hc`V`ca`a`Ybhcb`hAY`gci`fW`z`k`j]h`dUf]h]W`Uf`fYZ`fYbW`hc`l`ck`Y`ZY`W]j`Y`m`hAY`dfYgYb]h]b[`gh`XYbh`U`g`
i`gYX`j]h`

<YfY`UfY`gca`Y`ei`Ygh]cbg`hc`V`cbg]XYf`k`Y`b`U`W]b[`U`g`a`Ybtef`.

g`hAY`hc]d]W]W]Uf`hc`mci`U`g`U`a`Ybtef`3`8`cYg`hAY`a`YbhYY`U`j`Y`U`W]Uf`a`Y`h`c`X`3`

<Ug`hAY`a`YbhYY`Yi`d`U]bYX`bYk`cf`V`ca`d`Yi`hYfa`g`UbX`#`f`hAY`cf]Yg`UXYei`U`h`m`zi`g]b[`gci`fW`g`Ug`U`V`Ug]g`
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5fY`hAY`gci`fW`g`i`gYX`V`m`hAY`a`YbhYY`U`W]X`Ya`j]WcbYg`3`z`bchz`]g`hAY`fY`U`fY`Ugcb`Z`f`h`g]3`7`Ub`mci`gi`[`[`Ygh`
U`k`Um`cZ]a`dfcj`]b[`hAY`ei`U]m`cZ`gci`fW`g`3`

7`Y`W`_`hAY`a`YbhYY`f]g]b]hYi`h`W]h]cbg`Xc`hAY`mig`Y`Ya`fY`]Ub]hcb`g]b[`Y`gci`fW`g`f`cf`gY`W]h]cbg`k`j]h]b`U`g]b[`Y`
gci`fW`E`k`Y`b`U`fU`b[`Y`cZ`gci`fW`g`a`j]h`VY`i`gYX`3`

8`cYg`hAY`a`YbhYY`i`gY`gY`V`cbX`Ufmgci`fW`g`k`Y`b`df]a`Ufmgci`fW`g`UfY`fYUX]mUj`U]UV`Y`3`

5fY`f`U`b`g`W]d]h]cbg`UbX`#`f`Ui`fU`Ub`U`mgY`g`i`gYX`3`5fY`hAY`fY`U`b`m`gd`Y`W]Z]Wa`Y`h`c`X`c`c`j]W]`ei`Ygh]cbg`hAY`U`h`
Uf]gY`3`5fY`hAY`dfYgYb]h]cbg`cZ`hAY`gY`W]Uf`3`

g`U`j]bZ`fa`U]h]cb`hc`VY`dfYgYb]h]X`fY`Yj`Ub]3`8`cYg`hAY`a`YbhYY`UXYei`U`h`m`Yi`d`U]b`hAY`V`cb`hYi`hcZ`hAY`

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≠UbmUgdYWicZH.Y`ghi XmgYYa g`WcbYb]ci gžXcYg`h.Y`a YbhY`fYWc[b]gY`h]g`UbX`\Uj Y`h.YmbchYX
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H]a`YhUV`Y`

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K YY_%`%(`GYdhYa VYf! %`GYdhYa VYf	GYa]bUf	%+`GYdhYa VYf` =hfcXi W]cbz`d`Ubb]b[`UbX`X]gW`gg]cb`cZWci fgY]bWi X]b[`Wci fgY`hYa Ygzd`fYgYbH]cb`hcd]Mgz a Ybhc`f]b[`hUa`gz`V]V`]c[fUd\]Ygzd`fYgYbH]cb a YhcXg`z`ghmY`a YhcXg`z`dfYgYbH]cb`XUH`g" Gh XYbhg`UfY`Ug`YX`hc`fYUX`7`UdhYfg`%d` `cZ H\ca Ug`Hi`f]bc`f]g`?`ge[U`Se`E`aU[S^>[XW`F`ZWBA`f]Ue aXBSd`f]U]bSf[a`

		<p>H\Ya Y' . '9bj]fcb a YbhUbX'UbXgWJdY</p> <p>Gh XYbhg'g\ci 'X'fYUX'7\UdhYf') 'cZ H\ca Ug'Hi f]bcfj' ? ge[U Se EaU[S^>[XW FZWBa f[Ue aXBSdf[U]bSf[a' 'f7 \]WJ[c.'I b]j Yfg]mcZ7 \]WJ[c DfYggž&\$\$, £"</p>
K YY_) . '%&'C WtcVYf!'%'* C WtcVYf	GYa]bUf	<p>%) 'C WtcVYf'</p> <p>8]gW gg]cb'cZ\ck 'hc'a U_Y'dfYgYbhUjcbg"</p> <p>H\Ya Y' (. '@cj Y'YhW</p> <p>Gh XYbhg'g\ci 'X'fYUX'7\UdhYf'* 'UbX'UbmfYa U]b]b[i bfYUX'gYW]cbg'cZH\ca Ug'Hi f]bcfj' ? ge[U Se EaU[S^>[XW FZWBa f[Ue aXBSdf[U]bSf[a' 'f7 \]WJ[c. I b]j Yfg]mcZ7 \]WJ[c'DfYggž&\$\$, £"</p>
K YY_)* . '%- 'C WtcVYf!'&' C WtcVYf	F YUX]b[<p>&&'C WtcVYf'</p> <p>B c'WUgg!'fYUX]b['k YY_</p>
K YY_)+ . '&*'C WtcVYf!' '\$ C WtcVYf	DfYgYbhUjcb	<p>&- 'C WtcVYf'</p> <p>DfYgYbhUjcbg</p>
K YY_) , . '&'Bcj Ya VYf!' '* Bcj Ya VYf	DfYgYbhUjcb	<p>) 'Bcj Ya VYf'</p> <p>DfYgYbhUjcbg</p>
K YY_) - . '- 'Bcj Ya VYf!' '% 'Bcj Ya VYf	DfYgYbhUjcb	<p>%&'Bcj Ya VYf'</p> <p>DfYgYbhUjcbg</p>
K YY_)%\$. '%* 'Bcj Ya VYf!' &\$'Bcj Ya VYf	DfYgYbhUjcb	<p>%- 'Bcj Ya VYf'</p> <p>DfYgYbhUjcbgžgbUW_g"</p>

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6U_Yfž7UhYf]bY""A i g]WUg`U`k YUdcb`cZYh`bcd`c]h]WU`j`c`YbW`UbX`W`bZ]Vh`dfcW`ggYg`cZYh`b]W`gYdUfU]cb`Xi`f]b[`UbX`UZ`Y`f`h`Y`V`f`Y`U`!`i`d`c`Z`M` [cg`Uj`]U""B`S`f`W`d`e`a`X`B`d`W`g`V`[U`V`ž` (+.!)`f`&`\$`%`ž`ž`(\$`-!(`&-`"

7fcc_ž8Uj`X""5`G]`h`Y`b`h`!`7`Y`b`h`f`m`7`U`h`c`[`c`Z`D`f`c`\]V]h`X`A`i`g]W""<agd`S`^`a`X`f`Z`W`3`_`W`d`[U`S` `?`ge[Ua`h`Y`[U`S`^`E`a`U`[W`k`l`*`&`%`f`G`d`f]b[`&`\$`-`ž`ž`%`+` ,`f`c`b`m`d`U`[`Y`g`%`&`U`f`Y`f`e`i`]f`Y`X`f`Y`U`X]b[`ž`"

7i`g]W`ž`Gi`n`U`b`b`Y` ;` ""A i g]WUg`h`c`f`h`f`Y`#`A i g]WUg`k`Y`U`d`c`b`""F`D`3`@`E` Ž`D`W`h`[e`f`S`F`c`d` `e`U`g`f`g`d`S`^`V`W`?`ge[U`S` Ž`F`c`d` `e`U`g`f`g`d`S`^`?`ge[U`D`W`h`[W` ž`%`f`&`\$`*`ž`ž`%` ,`"

<U`X`i`_`ž`>`c`b`7`""H]b`D`U`b`5`Y`m`c`b`h`Y`A`U`f`W` .`D`c`d`i` `U`f`A`i`g]W`ž`K`c`f`X`K`U`f`=>`U`b`X`h`Y`E`i`Y`g`h`ž`c`f`U` ;`f`Y`U`h`K`U`f`G`c`b[""B`a`b`g`S`d`?`ge[U`S` `V`E`a`U`[W`k`l`*` .(`f`&`\$`\$` ž`ž`(-`+!)`%`&`"

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C`7`c`b`b`Y`ž`ž`>`c`b`A`c`f[`U`b`""A`i`g]W]b`K`U`f`ž`A`i`g]W`ž`c`f`D`Y`U`W` .`5`F`Y`j`Y`k`5`f`h`W`Y""7`f`Z` `a`_`ge[Ua`h`Y`k`l`))` .`%`f`k`]b`h`Y`f`&`\$`%`ž`ž`%`&`!`%`&`+`"

D]Y`g`U`_`ž`>`c`b`U`h`U`b`F`""G`c`i`b`X`H`U`f[`Y`h`g` .`A`i`g]W`U`b`X`h`Y`K`U`f`]b`f`U`e`"">`a`g`d`S`^`a`X`?`ge[Ua`h`Y`[U`S`^`D`W`e`W`S`d`J`ž`&`*` .&!` `f`&`\$`\$`+`ž`ž`%`&`!`%`(-`"

G`U`h`_`i`b`U`f`U`h`U`a`ž`5`U`n`U`""G`H`U`[`]b[`K`U`f` .`D`Y`f`ž`c`f`a`]b[`6`U`f`U`h`U`B`U`h`U`a` `]b`7`c`c`a`V`c`ž`G`f`@`U`b`_`U`""5`a` `Y`d`W`e`e`a` `D`W`e`W`S`d`J`Z` [`6`S` `U`W`ž`8`F`>`() `#`%`f`B`d`f`]`&`\$`%` ž`ž`"

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5m`Y`f`g`ž`H`c`b`m`Y`h`U`""G`c`a`Y`h`]b[`X`U`b[`Y`f`c`i`g`m`U`g`_`Y`k` `k`]h`h`Y`k`U`m`k`Y`f`f`Y`h`U`_`]b[`U`V`c`i`h`f`U`W`U`b`X`h`Y`U`f`h`g`""E`k`V` `W`k`?`ad` [`Y` : `W`S`V`ž`>`i` `m` ,`ž`&`\$`\$`""h`h`g` .`#`k`k`"g`a` \`W`c`a` "U`i` #`W` `h`f`Y`#`a`c`j`Y`g`#`g`c`a`Y`h`]b[`!`X`U`b[`Y`f`c`i`g`m`U`g`_`""k`U`m`k`Y`!`f`Y`!`h`U`_`]b[`!`U`V`c`i`h`f`U`W`!`U`b`X`!`h`Y`!`U`f`h`g`!`&`\$`\$`\$`+`\$`*`!`d`))` -`V`n`\`h`a` `

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7c\Ybž< Ufh" "F YdYfrc]fYž@UbXgWUdY`UbX`A Ya cfm`K]`Ua g'g`UbX`GWXi`m'g`>ci fbYmhc`< cfgYg\cY`6YbX
7 UbhUjU"" ;` fWUjg fgd^? ge[U, 5 dWsf[a` S` V ;` fWbdWsf[a` ""9X""GU`miA UWUfh i fž6fi W`7 fcgga Ubž
F cbU`Xc`A cfY`cg`GmXbYm'5i ghU']Ub`A i g]W7 YbhfYž&\$+\$"

; fmiggž? UfYb"" "Jc]Wg`cZHy`DUWZ]W`hY`fWkcfU`hfUX]hcbg`cZC W`Ub]U"" FZW5S_ Td[VYW5a_ bS` [a` fa
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8]VYbž`B]Wc`U"" "B Uhi fY`UbX`B Uhc b. `B Uhc bU` ÷Ybh]mUbX`9bj]fcb a YbhU`]ga`]b` ÷W`UbX]WDcdi`Uf`A i g]W
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ħ[fUa ž8Uj]X"" "A m8]fmiGhfYUa ". `DYH`GYy[Yfž5a Yf]WU b : c`_A i g]WžUbX`9bj]fcb a YbhU`
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>Ōf[YbgYbž8c`m""9bX`]b[žhY`Dck Yf`cZHy`@Ugh]b`Ub`9I h]bW]cb!DfcbY`K cfX""7` h[da` _ W fS^
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F]WUfXgž:]cbU"" "K cfXg`UbX`A i g]W-`>ci fbYmhc`< cfgYg\cY`6YbX""E a` Yf BWk_d`S` UWS` V D [fgS`^`C dYb
I b]j Yfg]mž`A]rcb? YmbYgž&\$\$, "

GWXi`mž5bXfYk "" ÷Ybh]mUbX`A Ya cfm`HYa dcfU`]mUbX`hY`A i g]WcZ8Uj]X`@ a gXU]bY""E fgV[Wē []
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SSSSS"" ">ci fbYmg`k]h]b`a i g]WU`gdUW. `fYU`UbX`]a U[]bYX""@Sj ae ? ge[Ua`hYk ;` fWd Sf[a` S↑ %
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K U`XcW_ž?]a ""<agd Wk fa : adēWēZaW4W V FWSUZWdD WēagdJW=[f`GmXbYnž5i ghU']Ub`A i g]W7 YbhfYž
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8ci V`YXUmžJ Yfcb]W"" "Gci bXg`cZDck Yf. `5b`Cj Yfj]Yk`cZA i g]WU`ħghfi`a Ybhg`UbX
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8ca Ygh]W]c`YbW""? ge[U S` V Ba`f[Ue] Gi`a`a Yf`&\$%+ž%&*"

? fUa Yfž@Uk fYbW""7i`h`fY`UbX`A i g]WU`< Yfa YbYi h]W. `HY`GU`ca Y`7ca d`YI ""5S_ Td[VYWA bWdS
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@cYk Yž5bXfYUg'>"K \mXc'@ ħYfUbg'G]b[3'@ ħYfUbgžA i g]VžUbX'ħY'; cgdY''b'ħY':]fgh7Ybħi fmcZ ħY'F Yžcfa U]cb""5 ZgdJZ : [efackž, &.%f&\$% Łž*- - -"

A W'Ufmž'Gi gUb""8W_ [[WW V[Ye, _ge[Uf YW VWđ S` V eWj gS'fkžA]bbYUdc`]g.'I b]j Yfg]micZA]bbYgchU DfYggž%- %'I BGK '@VfUfmYVcc_

E i Ubmž8cb""7 Ubcbg']b'7c`]g]cb. <ma bg'UbX'7cbħYa dcfUfm7\]f]gh]Ub'A i g]W"">[fgdYkž&(.'f&\$%- Łž '&' -"

DYbb]b[ħcbžGHd\Ub"" : cf'K \Yb'K Y'7ca Y'ħc'; c.'5a V]j UYbh7cga cdc`]hUb]ga 'UbX'U'7cj YfhBYk'C`X 9i fcdY']b'ħY'; fUj YmUfX'UbX'; YffmXY'A c'g'?'ca Yb'ħY'; UUb"fi'7fZ` a_ge[Ua'ħYk 8adg_ ž&(.& f&\$%) Łž&' \$!&) -"

GWxi 'mž5bXfYk ""H\Y'a]bcfZ'žħY'a Učf`]ž! 'a i g]Vždck Yf'UbX'ħY'Wča dcgYf'g'V'UW_ Ufh""9 dXfZ DWħ]W

Gi Va]gg]cb 'cZ5ggYgga YbhiHUg_g

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

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

D`U[]Uf]ga `]g`i g]b[`hY`k cfXg`cf`]XYUg`cZc`hYfg`UbX`dfYgYbh]b[`hYa `Ug`mci f`ck b" `#WUb`hU`Y`a Ubm
Zcfa gZ`Zca `XY`]VYfU`h`V`X`Y`U`h]b[`h`U`W`Y`X`Y`b`h`U`m`W`c`d`m]b[`Z`ca `U`gci f`W`k]h`ci h`U`W`b`ck `Y`X[`Y`a `Y`b`h`

I B G K ` [fci dg`d`U[]Uf]ga `]b`h`Y`Z`c`ck]b[`W`h`h` [cf]Yg.

7 cdm]b[.`i`g]b[`h`Y`g`U`a `Y`cf`j`Y`fmg]a]U`f`k`cf`X`g`h`c`h`Y`cf][]b`U`h`Y`h`cf`]X`Y`U`k]h`ci h`U`W`b`ck `Y`X[]b[`h`Y`

- 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][\hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'UbX'5W'WdhUV'Y'I gY'cZ I BGK '⇒H'F Ygci fW'g'Dc`]Wm
- VY'Uk UfY'cZh'Y'ghUbxUfXg'cZVY\Uj]ci f'YI dYW'X'cZYj Yfmcby'j]b'h'Y'I BGK 'Wca a i b]m
- `cWJh'gYfj]Wg'UbX'j]bZcfa Uh]cb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZh'YgY'UfYUg'k]`VY'ZJa]]Uf'hc'mci ž'ch'Yfg'k]`VY'byk "; U]b]b['U'gc`X'i bXYfghUbx]b['cZU`h'Y fY'UH'X'UgdYW'g'cZ9@G9'k]`Y'd'mci 'a U_Y'h'Y'a cghcZmci f'gh X]Yg'Uhl BGK ""

[\hhd.##ji V'YW'i \]XYg" \]VfUfm'i bgk "YXi "Ui #' \]gY#JVci h' \]gY](#)

