



ARTS3690

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5hYbXUbW`F Yei]fYa Ybhg

5`gh XYbh]g`YI dYW`X`hc`UhYbX`U``WUgg`W`bHUVh\ci fg`Zcf`U`ZUW`!hc!ZUW`fl &: E`cf`V`YbXYX`W`ci fgY`UbX`W`ca d`YH`U``UW]j]h]Yg`Zcf`U`V`YbXYX`cf`Z``mcb`]bY`W`ci fgY"

5`gh XYbhk \c`Uff]j Yg`a cfY`h`Ub`%) `a]bi h]g``UhY`a UmVY`dYbU`]gYX`Zcf`bcb!UhYbXUbW``Zgi Wx`U`dYbU`hm`]g`]a dcgYXž`hY`gh XYbhia i ghVY`]bZcfa YX`j YfVU`mUh`hY`YbX`cZUWgg`UbX`UXj]gYX`]b`k`f]h]b[`k`]h]b`&(\ci fg"

ZU`gh XYbhYI dYf]YbW`g`]`bYggž`a]gUXj Ybh fy`cf`ch`Yf`c`W`ffYbW`h`Uha U`Yg`UVgYbW`Zca `U`WUgg#UW]j]hmi bUj c]XUV`Yž`cf`YI dYW`g`hc`VY`UVgYbhZca `U`Zcf`h`W`ca]b[`WUgg#UW]j]mž`h`Ymg\ci `X`gYY`_`dYfa]gg]cb`Zca `hY`7ci fgY`5i h`cf]mž`UbX`k`ca `U`Zcf`h`W`ca]b[`WUgg#UW]j]mž`h`Ymg\ci `X`gYY`_`

: cf`YggYbhU`ghi XYbh]bZcfa Uhcb`fY`Uh]b[`hc. `fYei Yghg`Zcf`YI hYbg]cb/fYj]Yk `cZa Uf_g/cVW dUhcbU`\\YU`h
UbX`gUZ`m/YI Ua]bUhcb`dfcW`Xi fYg/gdYW]U`Wcbg]XYfUhcb`]b`h`Y`Yj Ybhcz]`bYgg`cf`a]gUXj Ybh fY/
ghi XYbhYei]mUbX`X]gUV]`]m`UbX`ch`Yf`YggYbhU``UWXYa]W]bZcfa Uhcbz
gYY`\fdg.#k k"Ufdg"i bkg "YXi "Ui #W ffYbhghi XYbhg#JWUXYa]W]bZcfa Uhcb#dfcW`gl`i]XY`]bYg#

7ci fgY'8YHJ]`g

7fYX]hDc]bHg '*`

Gi a a UfmcZh\Y'7ci fgY

Gi VYWh5fYU. '>[Yg[ef[Ue

H\]g'Wci fgY'k]''YbUV`Y'mci 'rc'XYj Y'cd'g_]`g']b'YI hfUW]b['UbX'gmbh\Yg]g]b[']bZcfa Uhcb'fY[UfX]b[

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!WUgg'HYgh	' \$i	\$, #/\$#&\$% '\$-. \$\$'5A	%ž(
:]bU`YggUm	(\$i	&* #/\$#&\$% '\$). \$\$'DA	%ž&ž ž(
K YY_`mV`c[`	%) i	Bch5dd`]WV`Y	%ž
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8YHJ]`g. '5 `(\$'a]bi hŸ]b!WUgg'hŸghZcW g]b[`cb'a U`cf'hd]Wg`Wc] YfYX`]b`hŸY`Wci fgYžfYei]fYX`fYUX]b[gžUbX
WUgg`X]gW gg]cbg"Mc i `k]`fYW]j Y`]bX]j]Xi U`k f]hŸb`ZYXVUW`"

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

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8YHJ]`g. '&\$\$\$`k cfX`YggUmcb`UbmicZ`hŸ`a U`cf'hd]Wg`Wc] YfYX`]b`hŸY`Wci fgY`"H\]g`]g`hŸY`ZbU`UggYgga Ybh
Zf`UthŸbXUbW`di fdcgYg"Mc i `k]`fYW]j Y`]bX]j]Xi U`ZYXVUW`_j]U`U`fi Vf]W

Hi fb]h]b`gYH]b[. H\]g`Ugg][ba Ybh]g`gi Va]hŸX`hŸfci [\`Hi fb]h]b`UbX`gh XYbŸg`Xc`bchgYY`Hi fb]h]b
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8YHJ]`g. 'Mc i `k]`dcgh]b`hŸY`@A G`mci f`gi a a UfmicZUbX`fYZYW]cbg`cb`hŸY`Ugg][bYX`fYUX]b[g"Mc i `UfY
YI dYWYX`h`Xc`%`dcgŸg`cZUddfcl]a UŸ`m`i`%`k cfXg`YUW`": YXVUW`_k]`VY`dfcj]YX`j]U`]b!WUgg
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Hi fb]h]b`gYH]b[. H\]g`]g`bchU`Hi fb]h]b`Ugg][ba Ybh

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@Yb[h\.') 'a]bi hYg

8YhU]`g. 'Gh XYbfg'Xc'U') 'a]bi hY'dfYgYbhUj]cb" 'Mc i 'k]`'fYW`j] Y']bX]j]Xi U`ZYXVUW`j]U'U'fi Vf]W

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 XYbHg'UFY'YI dYWX'hc'di h'AY]f'bUa Yg'UbX'ghi XYbhbi a VYfg'cb'Yj YfmdU[Y'cZ'AY]f'Ugg][ba YbHg"

Hi fb]hb'Gi Va]gg]cb

zmc i'YbWci bhYf'U'dfcV'Ya'k \Yb'UHYa dh]b['hc'gi Va]hrci f'Ugg][ba Ybh'fci [\ 'Hi fb]hb'z'd'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'f1 *) 'XUmg'U'mYUfL' zmc i
UFY'i bUV'Y'hc'gi Va]hrci f'Ugg][ba YbhXi Y'hc'U'ZU' 'hk]h'Hi fb]hb' b' mci 'a UmiUdd'm'Zcf'Ub'YI HYbg]cb'z'Vi hrci
a i ghfY]b' mci f'h]W_Yhbi a VYf'Z'ca '9I HYfbU'Gi ddcfhfU'cb['k]h'Ubmc'h'Yf'fY'Yj UbhXcW a YbHg'hc
]bW' XY'Ug'Yj]XYbW'hc'gi ddcfhrci f'YI HYbg]cb'Udd']W]h'cb" zmc i 'Ya U]'9I HYfbU'Gi ddcfhrci 'k]`
Ui'hc'a U]W' m'fYW']j Y'U'h]W_Yhbi a VYf'z'Vi h]Zmc i 'HY'Yd\cbY' mci 'k]` b'YX'hc'gdYW]W' m'Ug_ 'Zcf'cbY"
Hi fb]hb'U'gc'dfcj]XYg'i dXUHY'g'cb'h'AY]f'gmghYa 'ghU'h'g'cb'Hk]HYf"

; YbYfU'm'z'UggYgga YbhHUg_g'a i ghVY'gi Va]HYX'Y'YW'fcb]W'mj]U'Y]h'Yf'Hi fb]hb'cf'U'A ccX'Y
Ugg][ba Ybh' b]bg]UbW'g'k \YfY'h']g']g'bchidcgg]V'YZ]hk]` VY'g'UHYX'cb' mci f'Wci fgY'g'A ccX'Y'g]HY'k]h
U'HYfbU]j Y'gi Va]gg]cb'XY]g"

@UH'5ggYgga YbhDYbU'h]Yg

Gh XYbHg'UFY'fYgdcbg]V'Y'Zcf'h'Y'gi Va]gg]cb'cZUggYgga YbhHUg_g'Vmi'h'Y'f'Yei]fYX'XUHY'g'UbX'h'a Yg"
8YdYbX]b['cZ'AY'YI HYbhcZXY'Um]b'h'Y'gi Va]gg]cb'cZUb'UggYgga YbhHUg_'dUgh'h'Y'Xi Y'XUHY'UbX'h'a Yz

- K cf_gi Va]hYX`%\$`hc`%-`XUmg`UZhf`h`Y`gh]di`UH`X`XYUX`]bY`k`j`VY`UggYggYX`UbX`ZYXVUW`dfcj`]XYX`Vi`hU`a`Uf`_`cZnYfc`k`j`VY`fYW`fXYX`"Z`h`Y`k`cf`_`k`ci`X`"Uj`Y`fYW`]j`YX`U`dUgg`a`Uf`_`Vi`hZcf`h`Y`"UH`bYgg`UbX`h`Y`k`cf`_`]g`U`W`a`di`gcfm`W`i`fgY`W`a`dcbYbhf`i`fX`Y`fYei`]fYa`YbH`Z`U`gh`XYbhk`]`VY`XYa`YX`hc`"Uj`Y`a`Yh`h`UhfYei`]fYa`Ybh`/`
- K cf_gi Va]hYX`&\$`cf`a`cfY`XUmg`UZhf`h`Y`gh]di`UH`X`XYUX`]bY`k`j`"bchVY`UW`W`d`h`X`Zcf`UggYgga`Ybh`UbX`k`j`"fYW`]j`Y`bc`ZYXVUW`Z`a`Uf`_`cf`[`fUXY`"Z`h`Y`UggYgga`Ybh`Ug`_`]g`U`W`a`di`gcfm`W`a`dcbYbhcZ`h`Y`W`i`fgY`U`gh`XYbhk`j`"fYW`]j`Y`Ub`l`bgUhgZ`U`W`c`fm`:`U`]`fl`:`k`[`fUXY`Ug`U`fYgi`"hcZ`i`bgUhgZ`U`W`c`fmdYfZ`fa`UbW`"j`b`Ub`YggYbh]U`W`a`dcbYbhcZ`h`Y`W`i`fgY`"

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Zcfa gž Zca`XY`]VYfUHy`WXYU]b['hc`UWV]XYbhU`mW`dm]b[Zca`U`gci fW`k]hCi hUW_bck`YX[Ya`Ybh`

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

7cdm]b[.`i g]b['hY`gUa`Y`cf`j Yfmg]a`]Uf`k cfXg`hc`hY`cf][]bU`hY`hcf`]XYU`k]hCi 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[Ygž`Ufh`UbX`XYg][`b`dfc`YWgž`Ug`k`Y`Ug`
dfYgYbhU]cbg`k`YfY`gca`YcbY`dfYgYbh]b[`Ubc`hY`f`g`]XYUg`cf`k`cfXg`k`]hCi hWYX]h`

#Uddfcdf]UHy`dUfUd`fUg]b[.`W`Ub[]b[`U`Zy`k`cfXg`UbX`d`fUgYg`k`Y`a`cghm`fYU]b]b['hY`cf][]bU`
g]h`i`W`fY`UbX`]bZcfa`U]cb`k`]hCi hUW_bck`YX[Ya`Ybh`"H`]g`U`gc`Udd`]Yg`]b`dfYgYbhU]cbg`k`YfY`gca`YcbY`
dUfUd`fUgYg`Ubc`hY`f`g`]XYUg`cf`k`cfXg`k`]hCi hWYX]h` #U`gc`Udd`]Yg`hc`d`]YW]b[`hc`[Y`hY`f`ei`chYg`UbX`
dUfUd`fUgYg`]bhc`U`bYk`k`c`Yž`k`]hCi hYfY`fYbW]b[`UbX`U`gh`XYbh`g`ck`b`UbU`mg]g`hc`Vf]b['hY`a`U`hY`f]U`
hc`[Y`hY`f`

7c`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_]7c`i`g]cb`U`gc`
]bWi`XYg`dfcj`X]b[`mci`f`k`cf_]hc`Ubc`hY`f`gh`XYbhVY`Zc`fY`hY`Xi`Y`XU`hY`ž`cf`Zc`f`hY`di`fdcgY`cZ`hY`a`
d`U[]Uf]g]b[`Uh`Ubmi]a`Yž`dUm]b[`Ubc`hY`f`dYfgcb`hc`dYfZc`fa`Ub`UWUXYa`]W]Ug`ž`ghU`]b[`cf`UW`ei`]f]b[
Ubc`hY`f`dYfgcb`g`UWUXYa`]Wk`cf_]UbX`W`dm]b[`]ž`c`ZYf]b[`hc`W`ca`d`Y`hY`Ubc`hY`f`dYfgcb`g`k`cf_]cf`gYY_]b[
dUma`YbhZc`f`W`ca`d`Y]b[`UWUXYa`]Wk`cf_]`

#Uddfcdf]UHy`W]U]cb.`7`]h]b[`gci`fW`g`k`W`Uj`Y`bchVYYb`fYUXž`k`]hCi hUW_bck`YX[]b[`hY`"gYW`bXUfm`
gci`fW`Zca`k`W`_bck`YX[Y`cZ`hY`a`Ug`VYYb`cV]U]bYX`

8i`d`]WU]cb`ffgY`Zd`U[]Uf]ga`"E`gi`Va`]h]b[`mci`f`ck`b`k`cf_]b`k`c`Y`cf`]b`dUfž`k`YfY`]h`Ug`dfYj`]ci`g`m`
VYYb`dfYdUfYX`cf`gi`Va`]hY`X`Zc`f`Ubc`hY`f`UggY`gga`Ybhcf`W`ei`fgY`U`hI`BGK`cf`Ubc`hY`f`i`b]j`Yfg]m`

7c`ffY`W`fY`Z`fY`bW]b[`dfUW]W]g.

- VYhYf'a UbU[Y'mci f'hja Y

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H]a YhUV`Y`

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K YY_% '&' 'i `m! '&- 'i `m	@YWh fY	>WUfgdWF ab[U, fbcXi W]b[`hY`Wci fgY/ UXa]b]ghfU]j Y`a UthYfg/\]ghcf]WU`VUW_[fci bX`tc hmdc`c[m DWSV[Y.`C <@H`7`UdhYfg`%`
K YY_&.` \$`i `m!`) 5i [i gh	@YWh fY	>WUfgdWF ab[U, A YhcXc`c[]WU`ggj Yg/hY`dfcV`Ya cZgUa d`]b[/YI d`U]b]b[``Ub[i U[Y`i b]j YfgUg DWSV[Y.`C <@H`7`UdhYfg`(!`*
K YY_` .`*`5i [i gh!`%& 5i [i gh	@YWh fY	>WUfgdWF ab[U, DUfng!cZgdYYW`gmghYa g/ Hmdc`c[]WU`X]gh]bW]cbg`]b`k cfX!Zcfa U]cb DWSV[Y.`G\cdYbZ`J c`" `Z`7`\`"/G\cdYbZ`J c`" `=Z`7`\` %/C <@H`7`\`"%`
K YY_(` .`%`5i [i gh!`%`- 5i [i gh	@YWh fY	>WUfgdWF ab[U, @YI]WU`hmdc`c[]Yg/]bZYW]cbU` a cfd\c`c[m DWSV[Y.`G\cdYbZ`J c`" `=Z`7`\UdhYfg`&/` `` /C <@H`Z` 7`\`"&&
K YY_(` .`&\$`5i [i gh!`&`* 5i [i gh	@YWh fY	>WUfgdWF ab[U, ; YbXYf`UbX`bci b`WUggYg/5gdYWZ` hYbgYza ccX DWSV[Y.`G\cdYbZ`J c`" `=Z`7`\`"/G\cdYbZ`J c`" `=Z` 7`\`"/C <@H`7`\`"&\$` .
K YY_`*.`&+`5i [i gh!`& GYdhYa VYf	@YWh fY	>WUfgdWF ab[U, K cfX`cfXYf DWSV[Y.`G\cdYbZ`J c`" `=Z`7`\`"/C <@H`7`\`"%`
K YY_`+.`" `GYdhYa VYf!`- GYdhYa VYf	@YWh fY	>WUfgdWF ab[U, Bci b`D\fuYgY`ghfi W] fY/HAY`a Ucf Z bW]cbg`cZ`hY`bci b`d\fuYg DWSV[Y.`G\cdYbZ`J c`Z`="`7`\`"/G\cdYbZ`J c`Z`=Z`7`\` ' /C <@H`7`\UdhYfg`%` /` %`- .
K YY_(` .`%`\$`GYdhYa VYf! %`*`GYdhYa VYf	@YWh fY	>WUfgdWF ab[U, 7`Ui gY`hmdYg DWSV[Y.`G\cdYbZ`J c`" `=Z`7`\`(.

<p>K YY_-' :%+ 'GYdHya VYf! &' 'GYdHya VYf</p>	<p>@YWhi fy</p>	<p>>WUfgdWF ab[U.'DUggj Y']b'h\Y'k cfX'g`Ub[i U[Yg/ J c]W'gmghYa g</p> <p>DWSV[Y.'G\cdYbžJ c`" :ž7\"`*/C <@H'7\UdhYfg`%+ /`% . .</p>
<p>6fYU_.' &('GYdHya VYf! ' '\$'GYdHya VYf</p>		<p>HYUW\]b['fYW'gg</p>
<p>K YY_`%\$.`%C WtcVYf!'`+ C WtcVYf</p>		<p>@UVci f'8UmDi V`]W<c`]XUm</p>
<p>K YY_`%%`;'`C WtcVYf!'`%(C WtcVYf</p>	<p>@YWhi fy</p>	<p>.</p> <p>>WUfgdWF ab[U.'7 ccfX]bUh]cb/7 ca d`Ya YbUh]cb</p> <p>DWSV[Y.'G\cdYbžJ c`" :="7\UdhYfg`%/`&/C <@H 7\"`&%</p>
<p>K YY_`%&.`%)`C WtcVYf! &%C WtcVYf</p>	<p>@YWhi fy</p>	<p>>WUfgdWF ab[U.'F Y`Uhj Y'7`Ui gYg/5Xj YfV]U`7`Ui gYg</p> <p>DWSV[Y.'G\cdYbžJ c`" :ž7\"`(/G\cdYbžJ c`" :ž7\"`)</p>
<p>K YY_`%`.'&&C WtcVYf! &.`C WtcVYf</p>	<p>@YWhi fy</p>	<p>>WUfgdWF ab[U.'GdYYW\`UWhX]gh]bW]cb`]b`[fUa a Uf/ gYa Ubh]W]mdc`c[m</p> <p>DWSV[Y.'G\cdYbžJ c`" :ž7\"`) /C <@H'7\"`&'</p>

F Ygci fWg

DfYgW]VYX F Ygci fWg

⇒ U[Y`h]hYX`"A]bU`Gi bXVYf[!@Ub[i U[Y`HfY`

8ck b`cUXYX`Zca `Z]W_f.`

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