



ARTS3822

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HYfa`Hk c`#`&\$&\$

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GhJZ`7cbhJW`8YhJ`g

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Summary

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H\Y'gmghYa UhWgh XmicZdc`hVg'\Ug'U`cb[`\]ghc fmž gfhYhW]b[`VUW`gca Y`fk c`UbX`U`\U`Zhc`ci gUbX`mYUfg
lc`hY`UbWYbhi; fYY_g`C j Yf`hY`UghVWbhi fmž\ck Yj Yfz`h\Ug`VYWta Y`]bgh`h`h`cbU`]gYX`UbX
dfc.ZYgg]cbU`]gYX`UbXžUg`hY`X]gWd`]bUfmbUa Y`Dc`]hWU`GWYbW`gi [[Yghž\Ug`gci [\hlc`di h`hY`gh XmicZ
dc`]hVg`cb`U`Zc`h]b[`Wta dUfUV`Y`lc`hY`U]a gža YhcXgžUbX`Wt`bj Ybh`cbg`dfYgi`a YX`]bhY[fU`lc`hY`bUh`fU`
gWYbW`g`M`h`hY`dcgg]V`]mžXYg]fUV`]mžUbX`Yj Yb`a`YUb]b[`cZU`gWYbW`cZdc`]hVg`UfY`Wt`bfcj Yfg]U`
]ggi Yg`H\]g`Wt`i fgY`YI`Ua`]bYg`Z`bXUa`Yb`hU`ei Ygh]cbg`UVci hk`Uhd`h]WU`_bck`YX[Y`]g`UbX`\ck`]h]g
UWt`i`]fYX`h`hY`Z]fghk`YY_gžmci`k`]YI`d`cfY`]b`U`[YbYfU`k`Umk`U`h]ha`][`h`ha`YUb`lc`VY`U`gh`XYbhcZ

Yb[U[Ya Ybhk]h`X]ZYfYbhHJg_g`hUhWbbchVY`i bXYfU_Yb`]b`U`WUggfcca`Ybj`]fcba`Ybžgi`Wk`Ug
WcbXi`W]b[`cb`]bY`fYgYUfWk`cf`k`UhWk]b[`U`Z]a`" `H\YgY`UW]j`]hYg`UfY`WYUfmiYI`d`U]bYX`cb`A`ccX`Y`fH`Y
I`b]j`Yfg]m@A`GŁ`UbX`k`]`a`cghmVY`ZUW]`]hU`YX`Vm]h`H\]g`V`YbXYX`a`cXY`cZXY`]j`YfmVch`]bWYUgYg`mci`f
ZYI`]V`]mž`Ug`mci` `W]b`Wca`d`YH`d`fYdUfUhc`fmUW]j`]hYg`UhU`h]a`Y`h`Uhg`i`]hg`mci`ž`UbX`XYYdYbg`Yb[U[Ya Ybž
Ug`mci` `k`]`Uff]j`Y`]b`h`Y`WUggfcca` `k`Y`!`dfYdUfYX`UbX`UV`Y`hc`i`bXYfU_Y`Wca`d`YI`ž`dfcV`Ya`!VUgYXž
`YUfb]b[`UW]j`]hYg`]b`h`Y`ZUW]!hc!ZUW`WUggYg"

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F YgYUfW`XYg][b`	%)	&\$#*\$ #&\$&\$`\$) . \$\$`DA	%ž(
@]hYfUhi fY`fYj]Yk`YggUm	')	% # \$ + # & \$ & \$ ` \$) . \$ \$ ` D A	%ž
F YgYUfW`9ggUm) \$	%) # \$, # & \$ & \$ ` \$ (. (% ` D A	&ž

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@Yb[h.) \$ \$ ` k c f X g

8YHU]`g.

7 \ ccgY`U`hcd]WcZfYgYUfW`UbX`Ub`UddfcUW`Wcj YfYX`]b`hY`Wci fgY" 8 fUk`i`d`U`fYgYUfW`XYg][b`f) \$ \$ k c f X g L`h`Uh`Ug`Uh`Y`Ugh`hY`Zc`ck]b[`Wta`dcbYbrg. fYgYUfW`ei`Ygh]cbz`h`Yc`fYh]WU`WcbhYI`hza`Y`h`c`Xc`c[mž fYgYUfW`hUW]Wg`UbX`ghYdg" Mci`k`j`fYW]j`Y`k`f]hYb`ZrYXVUW`UbX`U`bi`a`Yf]WU`[`fUXY`k`]h]b`h`k`c`k`YY`g`c`Z`gi`Va`]gg]cb`h`fci`[`\`A`ccX`Y"

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

5ggYgga Ybh&.`@]hYfUhi fY`fYj]Yk`YggUm

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Gh XYbhg`UfY`hc`k`f]hY`U`%\$ \$ \$! k c f X `hc`fYj`]Yk`hY`fY`Yj`UbhUWUXYa`]W]hYfUhi`fY`Zc`f`hY]f`Z]bU`fYgYUfW`dUdYf"

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]b`g`YY`Hi`fb]h]b`g]a`]Uf]hm`fYdcffg"

5ggYgga Ybh' .`F YgYUfW`9ggUm

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H\Y'YggUmfYei]fYg'mci 'rc'XYa cbghfUHY'Yb[U[Ya Ybhk]h' h\Y'WcfY'h\Ya Yg'UbX']ggi Yg'fU]gYX']b'h\Y
Wci fgY'UbX'mci f'UV']]mhc'cdYfU]cbU']nY'U'fYgYUfW']XYU" H\Y'k cfX']Yb[h'cZ'h\Y'YggUm]g" \$\$\$'k cfXg"
Mci 'k]']fYVW']j Y'k f]hYb'ZYXVUW'z'U'Wca d'Yh'X'fi Vf]W'UbX'U'bi a Yf]W']' fUXY'k]h']b'hk c'k YY_g'cZ
gi Va]gg]cb'h'fci [\ 'A ccX'Y" H\]g']g'h\Y'Z]bU'UggYgga YbhcZ'h\Y'Wci fgY"

Hi fb]h]b'gYh]b[. H\]g'Ugg][ba Ybh]g'gi Va]h'X'h'fci [\ 'Hi fb]h]b'UbX'ghi XYbhg'W]b'gYY'Hi fb]h]b'g]a]'Uf]m
fYdcfng"

5 HbXUbW F Yei]fYa Ybhg

Gh XYbhg UFY gfhcb [mYbWci fU[YX hc UHbX U WUggYg UbX fYj]Yk YWfi fY fYWcfX]b[g"

7 ci fgY GWXYXi Y

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K YY_% '%>i bY!) ' >i bY	GYa]bUf Cb]bY'5Wij]lm	7ci fgY]bhfci Xi W]cb'UbX'k \Uh]g'hY'UfhcZ dc`h]WU`gWYbW3
K YY_& ; ' >i bY! '%& >i bY	GYa]bUf Cb]bY'5Wij]lm	Bcfa Uhj Y'ghi X]Yg'cZdc`h]Wg
K YY_'. '%>i bY! '% >i bY	GYa]bUf Cb]bY'5Wij]lm	: cfa U'ghi X]Yg'cZdc`h]Wg
K YY_(. '&&'>i bY!'&* >i bY	GYa]bUf Cb]bY'5Wij]lm	9a d]f]WU`ghi X]Yg'cZdc`h]Wg`%`X]gWci fgYz a YUb]b[z'W`hi fY'UbX'a cfY
K YY_)'. '&'>i bY!' ' >i`m	GYa]bUf Cb]bY'5Wij]lm	9a d]f]WU`ghi X]Yg'cZdc`h]Wg`&.`VY\Uj]ci f
K YY_*'. '*`>i`m!`%\$`>i`m		:`YI]V`Y`k`YY_
K YY_+'. '%`>i`m!`%+`>i`m	GYa]bUf Cb]bY'5Wij]lm	9a d]f]WU`ghi X]Yg'cZdc`h]Wg`'.`ghfi`Wfi`fY
K YY_'. '&\$`>i`m!`&(`>i`m	GYa]bUf Cb]bY'5Wij]lm	9a d]f]WU`ghi X]Yg'cZdc`h]Wg`(`.`]bg]h]h`h]cb
K YY_'. '&+`>i`m!`'`%>i`m	GYa]bUf Cb]bY'5Wij]lm	9a d]f]WU`ghi X]Yg'cZdc`h]Wg`(`.`hY`Wca`dUfUhj`Y 'c[]W
K YY_%\$.`'`5i [i gh!`+ 5i [i gh	GYa]bUf Cb]bY'5Wij]lm	H\Y'UfhcZdc`h]WU`gWYbW.`mci`f'ck`b'dfUW]W

F Ygci fWg

DfYgWfjVYX`F Ygci fWg`

5`fYgci fWg`k j`VY`a UXY`Uj Uj`UV`Y j]U`A ccX`Y"

F YWca a YbXYX`F Ygci fWg

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Ʒmci`YbWci bHYf`U`dfcV`Ya`k` \Yb`UH`Ya` dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`h`fci`[`\`Hi`fb]h]b`z`d`Y`Ug`Y`
HY`Yd`cb`Y`9I`HY`fb`U`Gi`ddc`fh`cb`-`,`)`"``"``%`cf`Ya`U]`h`Ya`i`cb`YI`HY`fb`U`HY`hgi`ddc`fh`4`i`bgk`"YXi`"Ui`"Gi`ddc`fh`
`l`ci`fg`UfY`,`.\$\$Ua`-`-%\$.\$\$da`i`cb`k`YY`XUmg`U`bX`-`.\$\$Ua`-`).\$\$da`i`cb`k`YY`YbXg`f`l`*)`XUmg`U`m`Y`Uf`l`"Ʒmci`
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`Xi`Y`hc`U`Z`Ji`h`k`]h`Hi`fb]h]b`mci`i`a`Um`Udd`m`Z`f`U`b`YI`HY`bg]cb`z`Vi`hmc`i`
a`i`gh`f`Y`h]b`mci`f`h]W`Y`hbi`a`VY`f`Z`ca`9I`HY`fb`U`Gi`ddc`fh`f`U`cb[`k`]h`U`b`m`c`h`Y`f`f`Y`Y`U`b`h`X`c`W`a`Y`b`h`g`k`h`c`
]b`Wi`XY`U`g`Y`j`]X`Y`b`W`hc`gi`ddc`fh`mci`f`YI`HY`bg]cb`Udd`]W`h]cb`"Ʒmci`Ya`U]`9I`HY`fb`U`Gi`ddc`fh`mci`k`]`
Ui`h`ca`U`h]W`U`m`f`Y`W`]j`Y`U`h]W`Y`hbi`a`VY`f`z`Vi`h]Z`mci`HY`Yd`cb`Y`mci`k`]`b`Y`Y`X`hc`gd`Y`W`Z]W`U`m`Ug`_`Z`f`c`b`Y`"
Hi`fb]h]b`U`gc`d`fc`j`]X`Y`g`i`d`X`U`h`Y`g`c`b`h`Y`]f`g`m`g`h`Y`a`i`g`h`U`h`g`c`b`H`k`]h`Y`f`"

;`Yb`Y`f`U`m`z`Ugg`Y`gga`Yb`hi`U`g`_`g`a`i`gh`V`Y`gi`Va`]h`Y`X`Y`Y`W`f`c`b]W`U`m`j`]U`Y`]h`Y`f`Hi`fb]h]b`c`f`U`A`cc`X`Y`
Ugg][`ba`Yb`h`i`h`]b`g`h`U`b`W`g`k` \Y`f`Y`h`l`g`]g`b`c`h`d`c`g`g]V`Y`z`]h`k`]`V`Y`g`h`U`h`X`c`b`mci`f`W`ci`fg`Y`g`A`cc`X`Y`g`]h`k`]h`
U`h`Y`fb`U`h]`Y`gi`Va`]gg]cb`X`Y`h]g`"

:`cf`]b`Z`fa`U`h]cb`cb`l`ck`hc`gi`Va`]h`Ugg][`ba`Yb`h]g`c`b]b`Y`j`]U`A`cc`X`Y`.\`h`d`g`#`g`h`X`Y`b`h`i`bgk`"YXi`"Ui`#`ck`!
gi`Va`]h`Ugg][`ba`Yb`h`a`cc`X`Y`"

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

D`U[]Uf]ga `]g`i`g]b[`h`Y`k`c`f`X`g`c`f`]X`Y`U`g`c`Z`c`h`Y`f`g`i`U`b`X`d`f`Y`g`Y`b`h]b[`h`Y`a` `U`g`m`c`i`f`c`k`b``#W]b`h]U`_`Y`a`U`b`m`
Z`c`f`a`g`Z`Z`c`a` `X`Y`]V`Y`f`U`h`Y` `W`X`Y`U`h]b[`h`c` `U`W`W`Y`X`Y`b`h]U`m`i`W`c`d`m]b[`Z`c`a` `U`g`c`i`f`W` `k`]h`c`i`h`U`W`_`b`c`k` `Y`X[`Y`a` `Y`b`h`

I`B`G`K` `[`f`c`i`d`g`d`U[]Uf]ga `]b`h`c` `h`Y` `Z`c` `c`k`]b[`W`U`h`Y`[`c`f]Y`g.

- 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'5Ww'dhUV'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`]b'h'Y'I BGK 'Wca a i b]m
- `cWJh'gYfj]W'g'UbX']bZcfa Uhcb'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. #gj V'YWf i \]XYg" \]VfUfm'i bgk "YXi "Ui #` \]gY#JVci h' \]gY](#)

