



ARTS2462

HYfa YX]UH' 7 \]bYgY'Zcf'6UW_[fci bX'GdYU_Yfg'6

HYfa 'H\fYY'##'&\$&\$

7ci fgY`Cj Yfj]Yk

GHJZZ7cbHJW`8YHJ]`g

7cbj Ybcfg

B Ua Y	9a U]`	5j U]`UV]`]m	@cW]h]cb	D\cbY
K U\ ; i Ub`@a	k [`]a 4 i bgk "YXi "Ui	VmUddc]b]a Ybh	A cfj Yb`6fck b &()	\$&`-' , ,) %* , %

@YW] fYfg

B Ua Y	9a U]`	5j U]`UV]`]m	@cW]h]cb	D\cbY
7\Yb[!K Y]K Ub[VWYb[!k Y]k Ub[4 i bgk "YXi "Ui	VmUddc]b]a Ybh	A cfj Yb`6fck b &(\$	\$&`-' , ,) & , %)

Hi h]cfg

B Ua Y	9a U]`	5j U]`UV]`]m	@cW]h]cb	D\cbY
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GWcc`7cbHJW]`bZcfa Uh]cb

GWcc`cZ<i a Ub]h]Yg`UbX`@Ub[i U[Yg

@cW]h]cb. GWcc`C Z]W]ZA cfj Yb`6fck b`6i]X]b[ž@Yj Y`&ž&),

C dYb]b[`<ci fg. A cbXUm! : f]XUmž- Ua `!) da

D\cbY. Ž*%&`-' , ,) `* , %

: U! . Ž*%&`-' , ,) ; +\$)

9a U]: [\U`4 i bgk "YXi "Ui](#)

7ci fgY'8YHJ]`g

7fYX]hDc]bHg`*`

Gi a a UfmicZhY'7ci fgY

H\]g`Wci fgY`]g`ZcFVUW_[fci bX`gdYU_Yfg`UhhY`bhfafa YX]UH`@Yj Y""`#i]g`cdYb`hc`gh`XYbHg`k`c`\Uj`Y`[fck`b`i`d`]b`U`ZJa`]mcf`Ybj`]fcb`Ybhk`\YfY`A`UbXUf]b`cf`Ubm7\]bYgY`X]UYWg`\Uj`Y`VYYb`i`gYX`]b`XU]m`g]h`Uhcbg""`#ifYei`]fYg`U`fYUgcbUV`Y`Yj`Y`cZgdc_Yb`7\]bYgY`UbX`U`k`cf_]b[`_bck`YX[Y`cZbc`Ygg`h`Ub`%\$\$\$`W`UfUW`Yfg""`#`h`]g`Wci fgY`Z`mci`k`]`ja`dfcj`Y`mci`f`7\]bYgY`g_]`g`]b`h`Y`UfYUg`cZgdYU_]b[`z`]ghYb]b[`z`fYUX]b[`UbX`k`f]h]b[`z`UbX`k`]`a`U_Y`g][b]Z]W]bh[U]bg`]b`h`Y`UWci`]g]h]cb`cZ]cW]Vi`UfmUbX`[fUa`a`Uf`Mci`k`]`U`gc`VY`]b]fcXi`WYX`hc`gcW]U`z`W`h`fU`UbX`\]g]h]f]W`_bck`YX[Y`]b`h`Y`WcbhY`hcZ`h`Y`7\]bYgY`gdYU_]b[k`cfX""`#`UXX]h]cb`hc`XU]mX]gWci fgY`UbX`UVghfUW]X]YUg`z`h]d]W]h`UhfYei`]fY`W]h]W`h`]b_]b[`UbX`\][\Yf`Ub[i U[Y`]b]h[fU]h]cb`UfY`k`cj`Yb`]b]hc`h`]g`Yj`Y`cZ`Ub[i U[Y`gh`Xm`

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

%`I`bXYfghUbX`U`k`]XY`fUb[Y`cZ`hY] hg`Zca`j`Uf]ci`g`gci`fW]g`UbX`cb`U`j`Uf]YfmicZ`h]d]W]g`&`7`ca`dcgY`g`cfhYggUm]g`]b`7\]bYgY`cb`U`[]`Yb`h]d]W`'`" `5`Wci`]fY`Wca`a`i`b]W]h]cb`g_]`g`z`UbX`]XYb]h]ZmWca`a`i`b]W]h]cb`g]m]Yg`]b`7\]bYgY`(` `8`Ya`cbghfUH`]b]h]fa`YX]UH`!`Yj`Y`_bck`YX[Y`cZ`]b[i]gh]WVY\Uj`]ci`f`z`gc`W]Ym]UbX`W`h`fY`]b`h`Y`7\]bYgY]gdYU_]b[`k`cfX`

HYUW]b[`GhfUH[]Yg`

H\]g`Ub[i U[Y`Wci fgY`fYei`]fYg`mci`hc`UH`Y`bX`WUggYg`hc]U`]b[`Zci`f`\ci`fg`dYf`k`YY_]`cbY`&!`ci`f`Y`W]h`fY`UbX`cbY`&!`ci`f`h`hc]U`""`H\Y`Y`W]h`fY`Wci`Yfg`bYk`j`cW]Vi`Ufm]h]h]h]z`[fUa`a`U]h]W]g]h]f]h]h]fY`z`UbX`gcW]U`z`W`h`fU`UbX`\]g]h]f]W]`Uk`UfYbYgg`]b`h`Y`7\]bYgY`WcbhY`h`H\Y`h`hc]U`h]Uf[Yhg`k`cf`Vcc`_YI`YfW]gYg`UbX`dfcj`]XY`cddcf]b]h]Yg`Zc`f`gh`XYbHg`hc`gdYU_`7\]bYgY`UbX`UXXfYgg`Ubm]fYUX]b[`UbX`k`f]h]b[`]gg]Yg`Mci`UfY`U`gc`fYei`]fYX`hc`gdYbX`U`a`]b]a`i`a`cZ`_`ci`fg`dYf`k`YY_]`hc`gh`Xmci`hg]XY`h`Y`WUgg`]b`cfXYf`hc`UW]Yj`Y`U`gU]hgZ]W]h]fm`YUfb]b[`ci`hWca`Y`"

H\Y`Wci fgY`U]a`g`hc`Yb`UbW`UbX`UggYgg`gh`XYbHg`Zci`f`Ub[i U[Y`g_]`g`h`fci`[\ci`h`h`Y`Wci fgY`k`YfY`gh]f]h]h]fU`UbX`]b]h]fUW]j`Y`a`Y`h`c`Xg`UfY`Yei`U`m]Udd`]YX""`#`YUW`Y`ggcbz`mci`k`]`gh]Ufhk`]h`j`cW]Vi`Ufm]UbX`gh]f]h]h]fU`dfUW]W`k`\]W`k`]`h`Yb`VY`Z`ck`YX`Vm]h]Ug`!`UgYX`UW]j`]h]Yg""`7`cbg]XYf]b[`h`U]h]mci`UfY`VUW_[fci bX`YUfbYfgz`U`gi`Vgh]Ub]h]U`Ua`ci`b]h]cZ`WUgg`k`]`VY`WcbXi`WYX`]b`7\]bYgY`H\Y`Ub[i U[Y`cZ]bg]h]f]h]cb`]b`h`Y`WUgg`]g`df]a`Uf]m]h`Y`h]Uf[Yh`Ub[i U[Y`UbX`9b[`]g`\`k`]`VY`i`gYX`cb`m]k`\Yb`bYW]ggUfm`hc`WUf]Zm]gg]Yg`H\Y`UggYgga`YbHg`k`]`fYei`]fY`mci`hc`XYa`cbghfUH`U`gc`]X`Wca`dfY`Ybg]cb`UbX`cd]h]a`U`i`gY`cZ`Wcbh]b]hg`Wci`YfYX`]b`h`Y`h]h]h]cc`_fU]h]Yf`h`Ub`hc`fYdYU]h]f]X]a`Yb]Ufm]_bck`YX[Y`UWci`]fYX`Vm]fch`"

5ggYgga Ybh

5ggYgga YbhHUg_g`

5ggYgga YbhHUg_	K Y][\h	8i Y`8UH`	Gh XYbh@YUfb]b[Ci hWta Yg`5ggYggYX
HYgh&`	&\$i	K YY_)	%ž&ž(
; fci d`DfYgYbhUH]cb`	&)i	K YY_`%\$	' ž(
HYgh%)i	:]bU`9i Ua `DYf]cX	%ž&ž(

5ggYgga Ybh8YHU]`g

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GHUfhXUH`. Bch5dd]WUV`Y

8YHU]`g.

HYgh]b[`j cWUVi `Ufmž [fUa a Ufž`a UghYfmcZk f]h]b[`WXUfUWVYfg`UbX`k f]h]b[`g_]`g`f@Yggcb`% `!`@Yggcb`&\$Ł/+`\$`a `]bi hYg"

: YYXVUW_`UbX`Wta a Ybhg`]b`hi hcf]U`g"

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

D`YUgY`fYZYf`hc`A ccX`Y`UbX`]b!WUgg`Ubbci bWVa Ybhg`Zcf`U``i d!hc!XUH`UggYgga Ybh]bZcfa U]cb`Zcf HYfa ```&\$&\$"

5ggYgga Ybh&.`; fci d`DfYgYbhUH]cb

GHUfhXUH`. Bch5dd]WUV`Y

8YHU]`g.

Gh XYbhg`UFY`U`cWUH`X`]b[fci dg`Uhk`Y`ghUfhcZk`Y`hYfa žUbX`YUW`[fci d`dfYgYbhg]cb`Ub`Ugg][bYX`hcd]WV`%`!`&\$`a `]bi hYg"

CfU`ZYXVUW_]b`WUgg

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

D`YUgY`fYZYf`hc`A ccX`Y`UbX`]b!WUgg`Ubbci bWVa Ybhg`Zcf`U``i d!hc!XUH`UggYgga Ybh]bZcfa U]cb`Zcf HYfa ```&\$&\$"

5ggYgga Ybh` .`HYgh%

GHUfhXUH`. Bch5dd]WUV`Y

8YHJ]`g.

HYgh]b[`j cWJVi `Ufmž [fUa a Ufž'a UghYfmcZk f]h]b[`WUfUWYfg`UbX`k f]h]b[`g_]`g`f@Yggcb`%%!`@Yggcb`%+L/
%&\$`a `]bi h`g"

: YYXVUW_`UbX`Wca a Ybhg`]b`h`hcf]U`g

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

D`YUgY`fYZf`h`A ccX`Y`UbX`]b!WUgg`Ubbci bW`a Ybhg`Zcf`U``i d!h`!XUH`UggYgga Ybh]bZcfa Uh]cb`Zcf
HYfa `` `&\$&\$"

Gi Va]gg]cb`cZ5ggYgga YbhiHUg_g

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≠mci`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`l`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`UbX`-`.\$\$Ua`-`,`)`. \$\$da`i`cb`k`YY`YbXg`f`l`*)`XUmg`U`m`Y`Uf`l`"≠mci`
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`Ub`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`Ub`m`c`h`Y`f`f`Y`Y`Ub`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`"≠mci`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`l`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`"

:`c`f`]b`Z`c`fa`U`h]c`b`c`b`l`c`k`hc`gi`Va`]h]Ugg][`ba`Yb`h]c`b`]b`Y`j`]U`A`cc`X`Y`.`h`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`U`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]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 ""

[\hd. #gj V'YWf i \]XYg" \]VfUfm'i bgk "YXi "Ui #' \]gY#JVci h' \]gY](#)

5WUXYa]b=Uk Ucb]W=Zcfa Uh]cb

: cfYggYbh]U`gh XYbh]bZcfa Uh]cb`fY`Uh]b[`tc.

- fYei Ygh]Zcf`YI hYbg]cb/
- `Uh`gi Va]gg]cbg`[i]XY`]bYg/
- fYj]Yk `cZa Uf_g/
- I BGK `<YU`h`UbX`GUZY`mdc`]WYg/
- YI Ua]bUh]cb`dfcW`Xi fYg/
- gdYW]U`Wcbg]XYfUh]cb`]b`h`Y`Yj`YbhU`)

+