



# ARTS3665

? c f Y U b ' ð h Y f d f Y h ] b [

HYfa ' H \ f Y Y ' ' # ' & \$ & \$

GWXcc``cZ< i a Ub]h]Yg`UbX`@Ub[ i U[ Yg`..#` I BGK ``5ftg`UbX`GcWU``GWYbWg

7ci fgY`Cj Yfj JYk

GHJZZ7cbHJW`8YHJ`g

7cbj Ybcfg

B Ua Y	9a Uj`	5j Uj`UVj]m	@cWjhcb	D\cbY
GYcb[!7\i`G\]b	g" g\]b4 i bgk "YXi "Ui	K YXbYgXUm %\$!%&Ua	A 6&* &	- ' , ) ! ' + & (

Hi hcfg

B Ua Y	9a Uj`	5j Uj`UVj]m	@cWjhcb	D\cbY
5`jW`>cc	U"cc4 i bgk "YXi "Ui	H65	A 6&* , fYfYZfUV`m cb`]bYt	H65 fYfYZfUV`m VmYa U]t

GWXcc`7cbHJW`bZcfa Uhjcb

GWXcc`cZ<i a Ub]hYg`UbX`@Ub[ i U[ Yg

@cWjhcb. GWXcc`C ZjWzA cfj Yb`6fck b`6i ]X]b[ ž@Yj Y`&ž&),

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

D\cbY. ž\*%&`- ' , ) `%, %

: U! . ž\*%&`- ' , ) ; +\$)

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

7ci fgY'8YHJ`g

7fYX]hDc]bqg`\*`

Gi a a UfmicZ\hY'7ci fgY

H\]g`Wci fgY`dfcj ]XYg`U`dUfU!dfcZYgg]cbU`Yj`Y`]bhYfdFYh]b[ `dfc[ fUa `]b`? cfYUb`Zfca `U`fUg\_!VUgYX  
UddfcUW`" H\Y`Wci fgY`]bhfXi`Wg`]bhYfdFYh]b[ `hYcf]Yg`UbX`dfUW]Wg`]b`? cfYUb`" #iZcW`gYg`cb`g\_]`g`cZk`c!  
X]fYW]cbU`]bhYfdFYh]b[ `f9b[ `]g\`UbX`? cfYUb`U`UbX`dfcj ]XYg`mci`k`]h`Zci`bXU]cbg`Zcf`dUfUdfcZYgg]cbU`  
]bhYfdFYh]b[ `"]`#iU`gc`Yi`Ua`]bYg`hYW`b]ei`Yg`Zcf`UbU`mg]b[ `UbX`fYbXYf]b[ `X]U`c[ `i`Yg`cf`dUggU[ `Yg`cZX]ZYfYbh  
ghmYg`UbX`Wca`d`Yi`]m[ `#`UXX]h]cbz`hY`Wci`fgY`UXXfYggYg`Wfcgg!`]b[ `i`]gh]WUbX`Wfcgg!`W`h`fU`dfcV`Ya`g`  
fY`Yj`Ubhrc`dUfU!dfcZYgg]cbU`]bhYfdFYh]b[ `z`]bW`X]b[ `Yi`]W`#`fUa`a`U]W]W`dfcV`Ya`g`UbX`Yh`]W`  
]a`d`]W]h]cbg`" H\Y`Wci fgY`Wci`Yfg`U`fUb[ `Y`cZUi`hYb]h]Wgdc`Yb`hY`hg`UbX`U`j`Uf]YfmicZhd]Wg`]bW`X]b[ `gcW]c!  
W`h`fU`zYXi`W]h]cbU`z`Wca`a`YfW]U`UbX`dc`]h]W`hY`Ya`Yg`"

H\]g`Wci fgY`]g`hUi [ \h]b`Vch`? cfYUb`UbX`9b[ `]g\`"

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

%"

H\Y`Wēi fgY`i gYg`U`fUb[ Y`cZHYUWk ]b[ `ghfUHY[ ]Ygž ]bWī X]b[ `hUg\_!cf]YbHYX`UWij ]hYg`]b`dU]fg`UbX`[ fci dgž  
UbX`WUgg`UbX`ga U``[ fci d`X]gW`gg]cbg" `b`h`g`dfcW`ggž`mēi `k ]``VY`UV`Y`hc`Wēa`a`i`b]WUHY`Zcf`Uddfcd]UHY  
j`cWUvi`Ufmž`HYfa`gžYl`dfYgg]cbg`UbX`]XYUg`cfU``m`Mēi`k ]``Yl`hUWī`UbX`UbU`mgY`]bZcfa`U]cb`Zca`U`k ]XY

5ggYgga Ybh

5ggYgga YbhHUg\_g'

5ggYgga YbhHUg_	K Y][ \h	8i Y'8UH	Gh XYbh@YUfb]b[ Ci hWta Yg'5ggYggYX

Hi fb]hjb'gYHjb[ . 'H\]g ]g' bchU'Hi fb]hjb'Ugg][ ba Ybh

5ggYgga Ybh' . 'DfcZYgg]cbU'8Yj Y`cda YbhDfc YWw

GHUfhXUHY . %) #s- #&\$&\$'fK \_' %t

@Yb[ h\.'a ]b" \$'a ]bi hYgfik cf\_'l '- 'k \_g

8YHU]`g.

DfYdUfY'UbX'gi Va ]hmc i f'ck b'dcfhZc`]c`cb'Ub'UfYU'cZ`]b[ i ]gh]WWt a dYH'bwW'z'VUW\_[ fci bX' \_bck `YX[ Y'cf ]bH'fd'fYh]b[ 'dfUW]W'hc'UW]Yj Y'h\Y'Uddfcdf]UH'`Yj Y`cZdfcZYgg]cbU`]ga "'K cf\_'k YY\_'mZcf'Uh'YUgh' \$ a ]bi hYg'YUW'h]a Y'Xi f]b[ 'h\Y'gYa YghY'f'fK YY\_g'&!%\$%'7 i gtea ]gY'mci f'dcfhZc`]c`hc'VYghgi ]hmc i f'ck b W'fW a ghUbW'g'! 'bYYXgZ'YI dYf]YbW'gZ'gfYb[ h\g'UbX'k YU\_bYggYg"'8YHU]g'cZ'hY'dcfhZc`]c'dfc'YW'hk ]`'VY i d'cUXYX'cbhc'h\Y'I b]j Yfg]mfg'@A G'Uh'h\Y'Wt a a YbW'a Ybh'cZ'h\Y'Wt i fgY"'K f]hYb'ZYXVUW\_'k ]h Wt a a YbH'g'UbX'a Uf\_g

Gi Va ]gg]cb' bchYg.Mci 'a i ghgi Va ]hmc i f'dfc'YW'h'fYdcfhVmi'h\Y'Xi Y'XUH'j ]U'A ccX'Y'cf'd'UW]b[ ' ]h]b' i bXYf h\Y'Xccf'cZA 6&\*' &fH65L'

Hi fb]hjb'gYHjb[ . 'H\]g ]g' bchU'Hi fb]hjb'Ugg][ ba Ybh



&\$'Bcj Ya VYf	5ggYgga Ybh	dc`W / `Y[ U" &\$#%"` bHfdFYh[ `hYgh&. K Y`ZfYz`YU`h / a YX]W]žcf`dc`W / `Y[ U"
----------------	-------------	---



F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

`b!<ci gY`Gh XmDUW\_`dfcj ]XYX`VmH\Y`@VWf fYf`UbX`i d`cUXYX`cbhc`h\Y`I BGK` `A ccX`Y#@A G"

F YWca a YbXYX`F Ygci fWg

- @YYz`>`UbX`6i ncž5`f&\$\$-Ł5a\_\_g` [fk >S` YgSYW;` fWbdWf` YzH\Y` : YXYfU]cb`DfYgg"
- @]bXY[ UUFx`I` fP XgŁ`f%- (Ł`FWSUZ[ Y FdS` e`Sf[a` S` V ;` fWbdWf` Y \$Z5a ghYfXUa .`>c\b`6Yb`Ua ]bg Di V`]g\]b[ "I BGK` ``]VfUfm`
- K YVg]hYg.`
- I BGK` `@]VfUfm`[\hd.#\]VfUfmi bgk "YXi "Ui #](#)
- B55H=]bZcfa U]cb. [k k k "bUUh"Wca "Ui #](#)

Gi Va ]gg]cb`cZ5ggYgga YbhiHUg\_g

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

≠mci`YbWci bHYf`U`dfcV`Ya`k` \Yb`UHYa` dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`YbhiHfci`[`\`Hi`fb]h]b`z`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`  
`lci`fg`UfY`,`.\$\$Ua`-`-%\$.\$\$da`cb`k`YY`XUmg`UbX`-`.\$\$Ua`-`).\$\$da`cb`k`YY`YbXg`f1`\*)`XUmg`U`mY`Uf2`≠mci`  
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`YbhiXi`Y`hc`U`ZU`i`hk`]h`Hi`fb]h]b`mci`a`UmUdd`mZc`f`Ub`YI`HYbg]cb`z`Vi`hmc`i`  
a`i`ghfYhU]b`mci`f`h]W`Yhbi`a`VYf`Zca`9I`HYfbU`Gi`ddcfhfU`cb[`k`]h`Ubmc`h`Yf`fY`Yj`UbhXcW`a`Ybhtg`L`hc`  
]bWi`XY`Ug`Yj`]XYbVW`hc`gi`ddcfhmc`i`f`YI`HYbg]cb`Udd`]W]h]cb`"≠mci`Ya`U]`9I`HYfbU`Gi`ddcfhmc`i`k`]`  
Ui`hca`UH]WU`mifYW]j`Y`U`h]W`Yhbi`a`VYf`z`Vi`h]Zmci`HY`Yd`cbY`mci`k`]`bYYX`hc`gdYW]Z]WU`mUg`Zc`f`cbY`"  
Hi`fb]h]b`U`gc`dfcj`]XYg`i`dXUH`g`cb`h`Y]f`gmghYa`g`hU`h`g`cb`Hk`]hYf`"

;`YbYfU`mz`UggYgga`YbhiUg\_g`a`i`ghVY`gi`Va`]hYX`Y`YWfcb]WU`mj`]U`Y]h`Yf`Hi`fb]h]b`cf`U`A`ccX`Y`  
Ugg][`ba`Ybhi`h`]bghU`bVW`g`k` \YfY`h`lg`]g`bchidcgg]V`Yz`]hk`]`VY`ghU`h`X`cb`mci`f`Wci`fgY`g`A`ccX`Y`g]h`k`]h`  
U`HYfbU]h]`Y`gi`Va`]gg]cb`XYhU]g`"

:`cf]bZcfa`Uh]cb`cb`\ck`hc`gi`Va`]hUgg][`ba`Ybhtg`cb]bY`j`]U`A`ccX`Y`. \`hhdg`#gh`XYbhi`bgk`"YXi`"Ui`#ck`!  
gi`Va`]hUgg][`ba`Ybhta`ccX`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 ]W'g'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](#)

