



# ARTS3452

DfcZYgg]cbU`7 \]bYgY'5

HYfa `C.bY`##`&\$%-

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

7ci fgY`Cj Yfj ]Yk

`GHUZZ7cbHJW`i8YHJ`g`

`7cbj Ybcfg`

B Ua Y	9a U`	5j U]`UV]`]m	@cWJh`cb	D\cbY
M]`N\Yb[	m]"n\Yb[ ' 4 i bkg "YXi "Ui			



7 ci fgY'8YHJ>`g

7 fYX]hDc]bHg '\*`

Gi a a UfmicZ\hY'7 ci fgY

Gi VYWh5fYU.'7\]bYgY'Gh X]Yg

H\]g'Wci fgY'dfcj ]XYg'dfcZygg]cbU''Yj Y'']bgfhi W]cb]b'7\]bYgY''Ub[ i U[ Y'UbX'W'hi fY'gh X]Yg''6migh Xm]b[ U'k ]XY'fUb[ Y'cZHYI hg'hUhg\ck WUgY'hY'i gY'UbX'Yj c'i h]cb'cZj YfbUW'Uf'7\]bYgYz'mci 'k ]''Wc]b]bi Y'hc ]a dfcj Y'mci f']bHY[ fUHYX''Ub[ i U[ Y'g\_]`gz'YgdYVU''midfcZ]W]YbWm]b'fYUX]b[ 'UbX'k f]h]b[ žUg'k Y''Ug'XYj Y'cd U'gYbgY'cZ\hY'\]g]c'fmcZ7\]bYgY''Ub[ i U[ Y''H\Y'a YX]i a 'cZ]bgfhi W]cb]g'7\]bYgY''H\Y'Wci fgY'WUHYfg'Zcf gh XYbHg'YbHYf]b[ 'hY'7\]bYgY'dfc[ fUa 'UhihY'dfcZygg]cbU''Yj Y''UbX'U'gc'gYfj Yg'Ug'Ub'cd]h]cbU'Wci fgY Zcf'h]cgY'k \c'\Uj Y'Wca d'YhYX'5Xj UbVWX'7\]bYgY'6'f5F HG' ( ) %&"

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

%' Wca a i b]WUHY'k ]h'U'\[ \ 'Yj Y''cZdfcZ]W]YbWm]b'7\]bYgY''Ub[ i U[ Y &' X]gW gg'Wca d'YI 'gi VYWha UHYfg]'b'Vch'gdc\_Yb'UbX'k f]hYb'7\]bYgY ' " UbU'ngY'gcd\]gh]WUHYX'hYI hg'UbX' ]XYbh]Zmj Ufm]b[ ''Ub[ i U[ Y'ghmYg'UbX'fY[ ]ghYfgž'UbX'Udd'mihYa ' ]b YZYW]j Y'Wca a i b]WU]h]cb (" i gY'UbU'm]h]W]''UbX'W]h]W]''h]b\_]b[ 'g\_]`g )" YI d'U]b'hY'Yj c'i h]cb'cZ7\]bYgY''Ub[ i U[ Y

HYUWX ]b[ 'GhfUHY[ ]Yg'

H\Y'f]WX '\]g]c'fmiUbX'W'hi fU'z'']b[ i ]gh]WX]j Yfg]m]cZ\hY'7\]bYgY''Ub[ i U[ Yž'U'cb[ 'k ]h'hY'a i 'h]d']W]m]cZ Wca a i b]WU]h]cb'a cXYg'Vfci [ \h]UVci hVmi[ 'cVU']nU]h]cb'UbX'hYWX'bc'c[ ]WU''UXj UbW]gž'\Uj Y'U''VYYb'hU\_Yb ]b]c'U'W'Wci bhik \Yb'XYg][ b]b[ 'h]g'Wci fgY''H\YgY'Z]W]c'fg'\Uj Y'U[ fYU]h]a dUW]h]cb'dfUW]W]g'cZ']hYfUW]h]'6m gh Xm]b[ 'U'k ]XY'fUb[ Y'cZHYI hg'UbX'dfUW]W]b[ 'gdYW]U''m]XYg][ bYX''Ub[ i U[ Y'UbX'fYgYUfVX'YI YfV]gYgž gh XYbHg'k ]''UWX.]Yj Y'a i 'h]!'hYfUW]h]Ug'k Y''Ug'Wca a i b]WU]h]j Y'Wca d'YhYbW]h]'Gh XYbHg'k ]''XYj Y'cd'Ub i bXYfg]h]UbX]b[ 'cZ7\]bYgY'W'hi fYž'gcV]Y]miUbX'k c'fXj ]Yk gž]'b'dUf]h]W'Uf'hY'\]g]c'fmcZ7\]bYgY''Ub[ i U[ Y"

5ggYgga Ybh

5ggYgga YbhHUg\_g'

5ggYgga YbhHUg_	K Y][ \h		



	Hi hcf]U`	; fci d`F YgYUfWX Dfc`YWz`dfYgYbUjcbg
K YY_`%\$.`&&`5df]`!`&, 5df]`	@YWi`fY	Bc`YWi`fY
	Hi hcf]U`	HYgh&



Gi Va ]gg]cb`cZ5ggYgga YbhHUg\_g

Gi Va ]gg]cb`cZ5ggYgga YbhHUg\_g

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

Ẓmci `YbWci bhYf`U`dfcV`Ya `k \Yb`U`H`Ya dh]b[ `hc`gi Va ]hmc i f`Ugg][ ba YbhHfci [ \`Hi fb]h]bžd`YUgY  
H`Yd\cbY`9I H`fbU`Gi ddcfhcb`-` , ) `` `` ` %cf`Ya U]`H`Ya `cb`YI H`fbU`H`hgi ddcfh4 i bgk "YXi "Ui ``Gi ddcfh  
\ci fg`UfY` , .\$\$Ua `--`%\$. \$\$da `cb`k YY\_XUmg`UbX`- . \$\$Ua `--` ) . \$\$da `cb`k YY\_YbXg`fI \*) `XUmg`U`m`Y`UfL` Ẓmci  
UfY`i bUV`Y`hc`gi Va ]hmc i f`Ugg][ ba YbhXi Y`hc`U`ZU`i`hik ]H`Hi fb]h]b`mci `a UmiUdd`miZc`f`Ub`YI H`bg]cbžVi hmc i  
a i ghfY`H]b`mci f`h]W`Yhbi a VYf`Zca `9I H`fbU`Gi ddcfhfU`cb[ `k ]H`Ubmch`Yf`fY`Yj UbhXcW a Yb`hgL`hc  
]bWi XY`Ug`Yj ]XYbW`hc`gi ddcfhmci f`YI H`bg]cb`Udd`]W]h]cb" Ẓmci `Ya U]`9I H`fbU`Gi ddcfhmci `k ]`



## 5 WUXYa ]W<c bYghmUbX`D`U[ ]Uf]ga

D`U[ ]Uf]ga `]g`i g]b[ `hY`k cfXg`cf]XYUg`cZchYfg`UbX`dfYgYbh]b[ `hYa `Ug`mci f`ck b" `hWUb`hU`Y`a Ubm  
Zcfa gž`Zca `XY`]VYfUHY`WXYU]b[ `hc`UWV]XYbhU`mW`dm]b[ `Zca `U`gci fW`k ]h`ci hUW`bck`YX[ Ya Ybh`

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

7 cdm]b[ .`i g]b[ `hY`gUa Y`cf`j Yfmg]a ]Uf`k cfXg`hc`hY`cf][ ]bU`hYI hcf]XYU`k ]h`ci 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`UfhUbX`XYg][ b`dfc`YWgž`Ug`k Y`Ug`  
dfYgYbhU]cbg`k \YfY`gca YcbY`dfYgYbh]g`UbchYf`g`]XYUg`cf`k cfXg`k ]h`ci hW`YX]h`

hUddfcdf]UHY`dUfUd`fUg]b[ .`7`U`b[ ]b[ `U`ZYk`k cfXg`UbX`d`fUgYg`k`Y`a cghmifYU]b]b[ `hY`cf][ ]bU`  
ghfi W`i fY`UbX`#`f`dfc[ fYgg]cb`cZ]XYUg`cZ`hY`cf][ ]bU`ž`UbX`]bZcfa U]cb`k ]h`ci hUW`bck`YX[ Ya Ybh`H\]g`U`gc`  
Udd`]Yg`]b`dfYgYbhU]cbg`k \YfY`gca YcbY`dUfUd`fUgYg`UbchYf`g`]XYUg`cf`k cfXg`k ]h`ci hW`YX]h`UbX`hc`  
d]YW]b[ `hc[ YhYf`ei chYg`UbX`dUfUd`fUgYg`]bhc`U`bYk`k \c`Yž`k ]h`ci hUddfcdf]UHY`fYZYfYbW]b[ "

7 c`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\_]7 c`i g]cb`U`gc`  
]bWi XYg`dfcj ]X]b[ `mci f`k cf\_]hc`UbchYf`gh`XYbhVYZc`fY`hY`Xi Y`XUHYž`cf`Zc`f`hY`di fdcgY`cZ`hY`a

- i bXYfghUjX'mci f'f][ \hg'UbX'fYgdcbg]V]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[ ]Uf]ga ž'Wc'dmf][ \hžI BGK 'Gh XYbh7cXY'cZ7cbXi W'UjX'5W'W'dhUV'Y'I gY'cZ I BGK '⇒H'F'Ygci f'W'g'Dc`]W'h
- VY'Uk UfY'cZ'Y'ghUjX'UfX'g'cZVY\Uj ]ci f'YI dY'W'X'cZYj Yfmcby'j]b'h'Y'I BGK 'W'a a i b]m
- `cW'Uj'gYfj ]W'g'UbX'j]bZ'fa U]cb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZ'Y'gY'UfY'Ug'k ]`VY'ZJa ]]Uf'hc'mci ž'c'h'Y'fg'k ]`VY'bYk "; U]b]b[ 'U'gc`X'i bXYfghUjX]b[ 'cZU`'h'Y fY'U'Y'X'UgdY'W'g'cZ9@G9'k ]`'Y'd'mci 'a U\_Y'h'Y'a cghcZmci f'gh X]Yg'Uhl BGK ""

[\hd.##ji V'Y'W'i \]X'Yg"\]VfUfm'i bgk "YXi "Ui #' \]gY#\]Vci h' \]gY](#)

5 WUXYa ]WbZcfa Uh]cb`

: cfYggYbh]U`ghi XYbh]bZcfa Uh]cb`fY`Uh]b[ `rc.

- fYei Ygh]Zc`fYI hYbg]cb/
- `UhY`gi Va ]gg]cbg`[ i ]XY`]bYg/
- fYj ]Yk `cZa Uf\_g/
- I BGK `<YU`h`UbX`GUZY`midc`]WYg/

