



# ARTS3124

7c`UVcfUhj Y'DYfZcfa UbWY`A U\_]b[

GYa YghYf`Cby`#`&\$%

GWcc`cZHAY`5ftg`UbX`A YXJU`#`I BGK`..5ftg`UbX`GcWU`..GWYbWg

7 ci fgY`Cj Yfj ]Yk

`GHUZZ7 cbhUWhi8YHU]`g`

`7cbj Ybcfg`

B Ua Y	9a U]`	5j U]UV]]m	@cWU]cb	D\cbY
H\Yfcb`GWa ]Xh	h'gVWa ]Xh# i bgk "YXi "Ui	H\i fgXUm%&!&'cf VmUddc]bha Ybh	K YVghYf'%%& l )' &%	

GWcc`7 cbhUWhi`bZcfa Uh]cb

Fcca " %&ž`Yj Y"" `F cVYfhK YVghYf'6i ]X]b[

D\cbY. f\$&Ł-' , ) '( , ) \*

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

K YVg]hY: [\hfdg.#gUa "Ufng"i bgk "YXi "Ui](#)

H\Y`GWcc`cZhY`5fng`UbX`A YX]U`k ci `X`\_]Y`hc`F YgdYWz`m5W\_bck`YX[ Y`hY`HfUX]hcbU`7i`ghcX]Ubgž`hY`6YXY[ U`fP`Ybg]b[ hcb`WJa`di`gŁž; UX][ U`f7`]mUbX`5fhi`8Yg][ b`7 Ua`di`gYgŁ`UbX`hY`B [ i`bbUk`U`dYcd`Y`f5i`ghfU]Ub`8YZ`bWV: cfW`5WUXYa`mi]b`7 UbVYffUŁcZhY`UbXg`k`YfY`YUW`WJa`di`g`cZI`BGK`]g`cWU]hYX"

5 hYbXUbWV`F`Yei`]fYa`Ybhg

: cf`YggYbh]U`gh XYbh]bZcfa Uh]cb`fY`Uh]b[ `rc.`fYei Yg]g`Zcf`YI hYbg]cb/fYj ]Yk `cZa Uf\_g/cVW dUh]cbU`YU`h

7ci fgY'8YHJ]`g

7fYX]hDc]bqg`\*`

Gi a a UfmicZ\hY'7ci fgY

Gi V\W\h5fYU. FZWSfdWS` V BWOad\_ S` UWE fgV[W

7c`UVcfU]j Y'DYfZcfa UbW'A U\_]b[ `]bj ]h'g'mei `hc'k cf\_`hc[ Yh\Yf'k ]h'ch\Yfg'UWfcgg'U'fUb[ Y'cZX]ZYfYbh  
WfYU]j Y'Zcfa g'hc'XYj Y'cd'Ub'cf][ ]bU'&\$!a ]bi h'ga U'![ fci d'dYfZcfa UbW'Zk \]W'k ]``\Uj Y'U'di V]W  
dfYgYbU]cb'Uh\hY YbX'cZhf'fa `gi ddcfYX'Vmh\Y'7fYU]j Y'DfUW]W'@UV''Mci `k ]``VY`YX'h'fci [ \ `k YY\_`m  
k cf\_g\cdg'h\UhWU`Yb[ Y'h\Y'ZJa ]]Uf'UbX'YI dUbX'mei f'ja U[ ]bU]cb''Mci `k ]``YUfb'bch↑gh'h'fci [ \  
hU\_]b[ `UVci ha U\_]b[ žVi h'h'fci [ \ UW]j Y'mia U\_]b[ /UbX' ]b'Xc]b[ `gc'mei `k ]``gi fdf]gY'mei fgY'Zk ]h'k \Uh

# 5ggYgga Ybh

H\]g'Wci fgY'fYei ]fYg'mci 'hc'UhtYbX.

- U'HYW\bj]WJ'F Y\YUfgU'cb'Hi Y'cf'K YX'cZK YY\_% žhc'VY'UffUb[ YX
- U'8fYgg'F Y\YUfgU'ž) !- da žcb'K YXbYgXUmYj Yb]b[ ]b'h\Y'ž]bU'k YY\_'cZh\Y'Wci fgY'fl '\$'A Unt" G\ck 'ghUfng'Uhi+" \$da ž-€'A mYfg
- DYfZcfa UbW'Yj Yb]b[ ž) !%\$da žcb'h\i fgXUm]b'h\Y'ž]bU'k YY\_'cZh\Y'Wci fgY'fl '%A Unt" G\ck 'ghUfng'Uhi+" \$da ž-€'A mYfg
- DYfZcfa UbW'Yj Yb]b[ ž) !%\$da žcb': f]XUm]b'h\Y'ž]bU'k YY\_'cZh\Y'Wci fgY'f%>i bYŁ" G\ck 'ghUfng'Uhi+" \$da ž-€'A mYfg
- DYfZcfa UbW'Yj Yb]b[ ž) !%\$da žcb'GUh fXUm]b'h\Y'ž]bU'k YY\_'cZh\Y'Wci fgY'f&'>i bYŁ" G\ck 'ghUfng'Uhi+" \$da ž-€'A mYfg




5ggYgga YbhW]h]f]U.

- I gY`cZUddfcd]UH`XfUa`Uh f[ ]W`UbX`W]h]W`Ub[ i U[ YzXfuk ]b[ `cb`WUgg`X]gW`gg]cbg`UbX`Zca  
mci f`fYUX]b[ g

DfYdUfUhc fmiHJg\_g. ``bcb!UggYggYX`Vi hZUWtc fYX`]bhc`a Uf\_`Zcf`Z]bU`fUg\_

HUg\_`%Z`Xi`Y`k`YY\_`-

K`f]hY`U`dUfU[`fUd\`cf`fk`c`]b`k`\]W`mci`XYgWf]VY.





f`G][ b]Z]WbhmUZZYWhmci f`dYfZcfa UbWV`]b`UggYggUV`Y`k cf\_žVY`]hU`Zcfa U`YbX!cZgYa YghYf`YI Ua ]bUh]cbžU  
WUgg`hYghž`U`UVcfUhc fmi`hYghž`U`gYa ]bUf`dfYgYbUh]cb`cf`Ubmich`Yf`Zcfa`cZUggYgga`YbH`

: cf`Z`f`h`Yf`XYhU]`g`]b`fY`Uh]cb`hc`GdYWU`7`cbg]XYfUh]cb`]bWi`X]b[``K`Yb`hc`5dd`mž`<`ck`hc`5dd`m`UbX  
`Gi`ddcfh]b[`8`cW`a`YbUh]cb`d`YUgY`fYZYf`hc`h`Y`GdYWU`7`cbg]XYfUh]cb`k`YVgh]Y.`

[\hdg.#gh`XYbhi`bgk`YXi`"Ui`#gdYWU`!Wcbg\]XYfUh\]cb](#)

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" #WUb`hU`Y`a Ubm  
Zcfa gZ`Zca`XY`]VYfUHY`WXYU]b[ 'hc`UWV]XYbU`mW`dm]b[ `Zca`U`gci fW`k ]hCi hUW\_bck`YX[ Ya`Ybh`

I BGK`[ fci dg`d`U[ ]Uf]ga`]bhc`hY`Zc`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[ YgZ`UfhUbX`XYg][ `b`dfc`YWgZ`Ug`k`Y`Ug`  
dfYgYbhU]cbg`k`YfY`gca`YcbY`dfYgYbh]b[ `Ubc`h`Y`f`g`]XYUg`cf`k`cfXg`k`]hCi hWVYX]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]fi`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`h`Y`f`g`]XYUg`cf`k`cfXg`k`]hCi hWVYX]h` #U`gc`Udd`]Yg`hc`d`]YW]b[ `hc`[ Y`h`Y`f`ei`chYg`UbX`  
dUfUd`fUgYg`]bhc`U`b`Y`k`k`c`Y`Z`k`]hCi hfY`ZY`fY`bW]b[ `UbX`U`gh`XY`bh`g`ck`b`UbU`mg]g`hc`V`f]b[ 'hY`a`U`h`f]U`  
hc`[ Y`h`Y`f`"

7c`i`g]cb.`k`cf\_]b[ `k`]h`ch`Y`fg`Vi`hdUgg]b[ `cZ`h`Y`k`cf\_]Ug`U`d`Y`fgcb`g`]bX]j`Xi`U`k`cf\_]7c`i`g]cb`U`gc`  
]bW`i`XYg`dfcj`X]b[ `mci`f`k`cf\_]hc`Ubc`h`Y`f`gh`XYbhVY`Zc`fY`h`Y`Xi`Y`XU`h`Zc`f`Zc`f`h`Y`di`fdcgY`cZ`h`Ya`  
d`U[ ]Uf]g]b[ `Uh`Ubmi`h`a`Y`Z`dUm]b[ `Ubc`h`Y`f`d`Y`fgcb`hc`d`Y`Zc`fa`Ub`UW`X`Ya`]W`h`Ug`\_`Z`gh`U`]b[ `cf`U`W`ei`]f]b[  
Ubc`h`Y`f`d`Y`fgcb`g`UW`X`Ya`]W`k`cf\_]UbX`W`e`dm]b[ `]Z`c`Z`Y`f]b[ `hc`W`e`a`d`Y`h`Ubc`h`Y`f`d`Y`fgcb`g`k`cf\_]cf`g`Y`Y\_]b[  
dUma`Ybh`Zc`f`W`e`a`d`Y`h]b[ `UW`X`Ya`]W`k`cf\_]`

#Uddfcdf]UHY`W`h`U]cb.`7`]h]b[ `gci`fW`g`k`]W`U`j`Y`bchV`Y`Y`b`fY`U`X`Z`k`]hCi hUW\_bck`YX[ ]b[ 'hY`"gY`W`e`b`X`U`f`m`  
gci`fW`Z`ca`k`]W`\_`bck`YX[ Y`cZ`h`Ya`U`g`V`Y`Y`b`c`V`h]bYX`"

8i`d`]W`h]cb`f`f`gY`Z`d`U[ ]Uf]ga`"E`gi`Va`]h]b[ `mci`f`ck`b`k`cf\_]b`k`c`Y`cf`]b`d`U`f`Z`k`Y`fY`]h`U`g`d`fYj`ci`g`m`  
V`Y`Y`b`d`fY`d`U`fY`X`c`f`gi`Va`]h`Y`X`Zc`f`Ubc`h`Y`f`UggY`gga`Ybhcf`W`e`i`fgY`U`h`I`BGK`cf`Ubc`h`Y`f`i`b]j`Yfg]m`"

7c`f`f`Y`W`h`f`Y`Z`f`Y`bW]b[ `d`f`U`W`h]W`g.

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



F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

H\YfY`k ]`VY`g\cfhVfYU\_g`Uhgj ]hUV`Y`dc]bfg`Xi`f]b[ `YUWX`k`YY`\_m`WUgg"i`gY`cZd\cbYg`UbX`Udhdg`k ]`  
bchVY`dYfa`]hYX`Xi`f]b[ `WUgg""`6f]b[ `hc`YUWX`WUgg. `Vc`hY`cZk`Uhf`UbX`U`gbUW`z`W`a`Z`c`f`h`U`V`Y`W`c`h`Y`g`Z`c`f`  
a`c`j`Ya`Yb`h`z`UbX`U`b`c`h`V`c`c`\_`UbX`d`Y`b`"

GYY`cb`]bY`fYUX]b[ ``]ghUh

[\hdg.##Jd\\$%U"U`a`U"YI`Vf\]g\[ fci`d`W`a`#Y\[`Ubrc`#YUX\]b\[ `\]gh#\]gh#&&\) \(&\\*`-`\\*%\\$\\$\\$\\$%+`%3\]bgh\]h`hY1`\\*%d`B`G`K`S`=  
BGH/`Ui`h1`@`75`@`](#)

F YWca a YbXYX`F Ygci fWg

GYY`cb`]bY`fYUX]b[ ``]ghUh

[\hdg.##Jd\\$%U"U`a`U"YI`Vf\]g\[ fci`d`W`a`#Y\[`Ubrc`#YUX\]b\[ `\]gh#\]gh#&&\) \(&\\*`-`\\*%\\$\\$\\$\\$%+`%3\]bgh\]h`hY1`\\*%d`B`G`K`S`=  
BGH/`Ui`h1`@`75`@`](#)

7ci fgY`9j`U`i`Uh]cb`UbX`8Yj`Y`cda`Ybh

H\]g`W`ci`fgY`k`]`VY`Y`j`U`i`UH`X`h`f`ci`[`\`U`A`m`p`l`d`Y`f`]`Y`b`W`g`i`f`j`Y`m`U`h`h`Y`Y`b`X`c`Z`h`Y`W`ci`fgY`"

⇒a`U[`Y`7`fYX]h

⇒a`U[`Y`Z`f`ca`>`&\$%+`di`V`]W`g`\`U`f]b[`z`A`d`V[`S`k`?`[`d`S`U`W`e`""`D`\`c`h`c`V`m`i`<`Y`]X`f`i`b`@`D`\`f`

7F`⇒7`CG

7F`⇒7`CG`D`f`c`j`]X`Y`f`7`c`X`Y`.`\$`\$`\$`-`,`;`,`