



## ARTS3243

F Ya U\_]b[ 'BUh fY. 'H\Y 'Dc`]h]Wg`cZ6]chYWXbc`c[ m

HYfa `Cby`#`&\$%-

7ci fgY`Cj Yfj ]Yk

`GHJZ`7cbhJW`i8YHJ`g`

`7cbj Ybcfg`

B Ua Y	9a Uj`	5j Uj`UVj]m	@cWjhcb	D\cbY
B ]W`Ug`F Uga i ggYb	B "F Uga i ggYb4 i bgk "YXi "Ui	dcg`YX`cb`A ccX`Y	A cfj Yb`6fck b` ' %	- ' , ) `&' *% Ya Uj`]Zbc Ubgk Yf

GWXcc``7cbhJW`i`bZcfa Uhjcb

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

@cWjhcb. `GWXcc``C ZZ      Ub]h

7 ci fgY'8YHJ`g

7 fYX]hDc]bhr '\*`

Gi a a UfmicZhY'7 ci fgY

Gi VYWh5fYU.'7` h[da` \_ W fS^: g\_ S` [f]W

H\]g`Wci fgY`YI Ua ]bYg`k \Uha Ubm\Uj Y`WU`YX`hY`"Wbhi fmicZhY` [ YbY`UbX`]hg`dcfYbh]U`Zcf`fYg\Ud]b[ `hY`Ybj ]fcba YbhiUbX`\i a Ub]m'6]chYWXbc`c[ mUWb`VY`i bXYfgtcX`Ug`U`gcW]U`Zdc`]h]WU`UbX`W`hi fU`dfc`YWhUg`a i WX`Ug`U`hYWXb]WU`cbY" `b`h]g`Wci fgY`k Y`Wcbg]XYf`hYgY`]ggi Yg`h`fci [ \`hY`df]ga`cZ`WcbhYa`dcfUfm`Ybj ]fcba Ybhu`h]b\_]b[ `ZXFUk ]b[ `cb`U`a i`h]X]gWd`]bUfmitc``\_]hZca`gW]YbW`gh`X]Yg`fGHGtZW`hi fU`UbX`dc`]h]WU`hY`c`fmz`UbX`gcW]c`c[ m`K`Y`fYfUW`hY`Ya`Yf[ YbW`cZV]chYWXbc`c[ mZca`]hg`YUfm]a`U[ ]b]b[ g`h`fci [ \`]hg`Ya`Yf[ YbW`Ug`U`fYU`dfc`YWh]b`hY`h`Yb]Yh`Wbhi`fmz`UbX`YI`d`cfY`U`fU]b[ Y`cZ`WcbhYa`dcfUfm`WUgY!gh`X]Yg`gi`WX`Ug`; A`ZcXZ`[ YbY`hYfUdmzV]c!dfc`gdYW]b[ `ZbUbc`hYWXbc`c[ mUbX`gmb`hYh]W]c`c[ m`Mci`k`]`Uj`Y`hY`cddcfh`b]mhc`gY`YWh]ggi`Yg`gi`WX`Ug`h`YgY`Zcf`XYdYfYI`d`cfU]h]cb`]b[ fci`d`dfc`YWg`]bj`c`j`]b[ `]bXYdYbXYbhYfYgYUfW`UbX`UbU`mg]"

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

- %`9I`d`U]b`hY`\]g]cf]WU`Zdc`]h]WU`UbX`W`hi fU`WcbhYI`hg`h`Uh\Uj`Y`g\UdYX`hY`Ya`Yf[ YbW`cZ`V]chYWXbc`c[ mUbX`hY`V]cgW]YbWg
- &`5bU`mgY`hY`]bhYfgYW]cbg`VYh`YYb`[ YbYh]Wg`fYgYUfW`UbX`g\]Zg`]b`WcbhYa`dcfUfm]dc`]h]WU`cf[ Ub]gU]cb`UbX`Ybj ]fcba Ybhu`dfUW]W
- '`5dd`mgY`YWYX`X]gWd`]bUfmiUddfc`UWX`Yg`UbX`WcbW`dh`U`hc`g`hc`i`bXYfg]UbX]b[ `hY`gcW]U`UbX`Ybj ]fcba Ybhu`UgdYW]cZV]chYWXbc`c[ mUbX`hY`V]cgW]YbWg
- ("`5dd`mg\_]`g`cZW]h]WU`UbU`mg]gZ`dfcV`Ya`gc`]b[ `UbX`]bhYfdYU]h]cb`]b`Vch`k`f]hYb`k`cf`\_`UbX`]b!`WUgg`X]gW`gg]cbg
- )`7cbXi`Wh]bXYdYbXYbhYfYgYUfW`UbX`XYa`cbghU]h`U`WdUV`]mhc`UggYa`V`Y`Z`gmb`hYg]gY`UbX`Wca`a`i`b]WU]h`fYgYUfW`Z]bX]b[ g`UbX`UbU`nt]WU`]bhYfdYU]h]cbg

HYUWX ]b[ `GhfU]h[ ]Yg`

H\]g`Wci fgY`fYei ]fYg`gh`XYbh]h`Yb[ U[ Y`k`]h`\][ \!`Yj`Y`UbU`nt]WU`gWc`Ufg\`d`]b`YI`d`cf]b[ `UbX`UbU`mg]b[ `hY`WcbhYa`dcfUfmV]cgW]YbWg" `h`k`]`fYei ]fY`fYZYW]j`Y`UbX`gY`Z`W]h]WU`YUfb]b[ `hc`[ YhYf`k`]h`U`WdUV]m`hc`UggYa`V`Y`UbX`gmb`hYg]gY`]bZ`fa`U]h]cb`Zca`U`fU]b[ Y`cZ`gci`fWg`UbX`X]gWd`]bUfmiVUW\_]`fci`bXg`"H\Y`Wci fgY`U`gc`k`]`fYei ]fY`gh`XYbh]h`Udd`mi`hYgY`]bg][ \hg`]b`U`fYU`!k`cfX`YI`Ua`d`Y`UbX`hc`Wca`d`Yh`U`a`U`cf`d]YW`cZ`UggYgga`Ybhi`h`UhYI`Ua`]bYg`hY]f`WdUV`]h]Yg`hc`Xc`h]g`"H\YgY`cV`YW]j`Yg`k`]`VY`UWX]Yj`YX`h`fci [ \`YWh`fYgZ`]b!XYd`h`hi`hc]U`X]gW`gg]cbgZ`]bXYdYbXYbhYfYgYUfW`UbX`hY`dfYdUfU]h]cb`cZ`UggYgga`Ybh`hUg`g" `b`cfXYf`Zcf`gh`XYbh]h`XYj`Y`cd`hY`Zca`g`cZW]h]WU`fYZYW]cb`bYW`ggUfm]Zcf`h]g`Wci fgY`Z`dUf]WdU]h]cb`]b`hi`hc]U`X]gW`gg]cb`k`]`VY`Ya`d`Ug]gYX`UbX`]g`fYZYW]h`X`]b`hY`UggYgga`Ybh]gW]YXi`Y"

# 5ggYgga Ybh

H\Y`]ghcZWci fgY fYUX]b[ g`UbX`hY`gWXYXi`Y`cZk`Uhmci`k`j`VY`YI`dYWYX`hc`fYUX`Zc`fYUWk`k`YY`fj`Vi`nn`  
 [ fci`d`X]gW`gg]cbz`]g`dchgYX`cb`hY`Wci`fgY`A`ccX`Y`g]fY`fYUX]b[ g`j`jU`@Y[`Ubhc`dcfU`E"

## 5ggYgga YbhHUg\_g`

5ggYgga YbhHUg_	K`Y][`h	8i`Y`8UH`	Gh`XYbh`@YUfb]b[` Ci`hWca`Yg`5ggYggYX`
6i`nn`[`fci`d`fci`]nfi`	%\$i`	K`YY`_`m]b`Hi`hc`f]U`	%z&z(`
F`YgYUfW`Dfc`YW`/`9ggUm`	)`\$i`	`A`Um`&`\$`%`/`(`.``\$`\$`DA`	%z&z`z(`z`)
7`cbW]gY`YggUm`g`	(`\$i`	k`YY`_`nZ`Uh(`da`+`X`Um`g`U`Z`Y`f` h`Y`X`UH`k`Y`b`hc`d]Wk`Ug` c`Z`Y`f`Y`X`	%z&z`

## 5ggYgga Ybh8YH]`g`

5ggYgga Ybh%`6i`nn`[`fci`d`fci`]nfi`

GHUfhXUH`. Bch5dd`]WUV`Y`

8YH]`g`. Gh`XYbh]fidUfh]WdU]cb`]b`h`hc`f]U`X]gW`gg]cbg`k`j`VY`UggYggYX`h`fci`[`\`ci`h`h`Y`Wci`fgY`cb`U`  
 DUgg#`U]`V`Ug]g`UW`W`fX]b[`hc`k`Y`h`Y`f`h`Y`f`X]gW`gg]cb`[`fci`d`]bh`Y`][`Y`bh`m`U`X`X`f`Y`g`g`Y`X`U`g`Y`h`e`i`Y`g`h`c`b`Z`c`f`  
 X]gW`gg]cbz`UbX`h`Y`]bX]j`]Xi`U`gh`XYbhk`Ug`c`V`g`Y`f`j`Y`X`hc`U`W`h`j`Y`m`d`U`f`h]WdU`h`""`9`U`W`k`Y`Y`\_`f`j`h`hc`f]U`  
 X]gW`gg]cb`ei`Y`g`h`c`b`g`d`f`Y`d`U`f`Y`g`h`XYbh]g`hc`k`f]h`i`d`h`Y`c`d`h`c`b`U`k`Y`Y`\_`m`Y`g`g`U`m`h`c`d]W`f`V`Y`c`k`E`":`Y`Y`X`V`U`W`\_`V`m`  
 d`f`c`a`d`h]bX]j`]Xi`U`Ya`U]`]b`h`Y`Y`j`Y`bh`U`gh`XYbhX]X`b`ch`DUgg]b`U`k`Y`Y`\_`"

Gi`Va`]gg]cb`b`ch`g`.bc`k`f]h`Y`b`gi`Va`]gg]cb`]g`]bj`c`j`Y`X`

Hi`fb]h]b`g`Y`H]b[`.H\]g`]g`b`ch`U`Hi`fb]h]b`Ugg][`ba`Y`bh`

5ggYgga Ybh&.`F`YgYUfW`Dfc`YW`/`9ggUm`

GHUfhXUH`. Bch5dd`]WUV`Y`

@Yb[`h`.`&`\*`\$`\$`a`]b`z`'`&`\$`\$`a`U`I`

8YH]`g`. F`YgYUfW`d`fc`Y`W`z`k`\]W`a`Um`V`Y`W`c`b`X`i`W`Y`X`V`m[`fci`d`g`c`Zi`d`hc`h`f`Y`Y`gh`XYbh]z`k`]h`U`"``\$`\$`\$`k`c`f`X`  
 YggUm]Ug`h`Y`UggYggYX`ci`h`Wca`Y`"5`"gh`XYbh]b`U`[`fci`d`gi`Va`]hg`Ua`Y`YggUm]UbX`f`Y`W`j`Y`g`Ua`Y`a`Uf`\_`  
 Gh`XYbh]k`j`"U`j`Y`U`W`c]W`c`Z`hc`d]W`g`z`k`\]W`k`j`"W`U`Y`b[`Y`h`Ya`hc`W`c`b`g]X`Y`f`W`b`h`U`Wci`fgY`h`Ya`Y`g`  
 Gh`XYbh]k`j`"V`Y`YI`dYWYX`hc`a`U`Y`i`g`Y`c`Z`Wci`fgY`fYUX]b[ g`UbX`W`c`b`X`i`W`h]bX`Y`d`Y`b`X`Y`b`h`f`Y`g`Y`U`f`W`"  
 K`f]h`Y`b`Z`Y`X`V`U`W`\_`H\]g`]g`h`Y`Z]b`U`UggYgga`Y`bh`Z`c`f`U`h`Y`b`X`U`b`W`d`i`d`c`g`Y`g`"

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

Gh`XYbh]k`j`"V`Y`Yb`Wci`fU[`Y`X`hc`d`f`c`d`c`g`Y`h`Y`f`c`k`b`hc`d]W`g`V`m`K`Y`Y`\_`)"`"5`g`h`U`b`X`U`f`X`hc`d]W`k`j`"U`g`c`V`Y`]gg`i`Y`X`  
 V`m`K`Y`Y`\_`)"`z`k`\]W`a`i`gh`V`Y`X`c`b`Y`V`m]U`b`m`c`b`Y`k`\`c`g`Y`d`f`c`d`c`g`Y`X`f`Y`g`Y`U`f`W`d`fc`Y`W`h`c`d]W]g`b`ch`U`d`d`f`c`j`Y`X`"5`"  
 YggUm]Wci`U`i`ggUm]c`g`Y`d`f`c`d`c`g`Y`X`f`Y`g`Y`U`f`W`d`fc`Y`W`h`c`d]W]g`b`ch`U`d`d`f`c`j`Y`X`"5`"











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`YUfL` Ẓmci  
UfY`i bUV`Y`hc`gi Va ]hmc i f`Ugg][ ba YbhXi Y`hc`U`ZU`hik ]H`Hi fb]h]b`mci `a UmiUdd`miZc`f`Ub`YI H`bg]cbžVi hmc i  
a i ghfYH]b`mci f`h]W`Yhbi a VYf`Zca `9I H`fbU`Gi ddcfhfU`cb[ `k ]H`Ubmch`Yf`fY`Yj UbhXcW a Ybhgk`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 hWYX]h`

hUddfcdf]UHY`dUfUd`fUg]b[ .`7`Ub[ ]b[ `U`ZYk`k cfXg`UbX`d`fUgYg`k`Y`a cghmifYU]b]b[ `hY`cf][ ]bU`  
ghfi W`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 hWYX]hU`bX`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 bXYfghUbx'mci f'f][ \hg'UbX'fYgdcbg]V]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[ ]Uf]ga ž'Wc'dmf][ \hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'Ubx'5W'W'dhUV'Y'I gY'cZ I BGK '⇒H'F'Ygci f'W'g'Dc`]W'h
- VY'Uk UfY'cZ'Y'ghUbxUfXg'cZVY\Uj ]ci f'YI dYW'X'cZYj Yfmcby'j]b'hY'I BGK 'W'a a i b]m
- `cWJh'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'hY'fg'k ]`VY'bYk " "; U]b]b[ 'U'gc`X'i bXYfghUbx]b[ 'cZU`'hY fY'UH'X'UgdY'W'g'cZ9@-G9'k ]`'Y'd'mci 'a U\_Y'hY'a cghcZmci f'gh X]Yg'Uhl BGK ""

[\hhd.##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`mdc`]WYg/

