



# ARTS3886

@j ]b[ 'GcWJU''>i ghjWV. '9l dYfjYbWV 'UbX'DfUWjWV

HYfa 'Hk c''##'&\$&\$




7ci fgY'8YhJ]g


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

5GG9GGA 9BH'89H5=@K @@'69'5J5=@56@9': FCA`K 99?`%B`H<9'7CI FG9'GI DD@9A 9BH5FM  
; I @9'CB`H<9'5FHG" , , \*`A CC8@9'D5; 9

Hi fb]h]b`gYH]b[ . H\]g]g`bchU`Hi fb]h]b`Ugg][ ba Ybh

5ggYgga Ybh' . `K cf\_Vcc\_

GhUfhXUHY . Bch5dd`]WV`Y

@Yb[ h\ . `K YY\_`mYbh]fYg

8YHJ]`g.

K CF?6CC?`89H5=@G`K @@'69'5J5=@56@9': FCA`K 99?`%B`H<9'7CI FG9'GI DD@9A 9BH5FM  
; I @9'CB`H<9'5FHG" , , \*`A CC8@9'D5; 9

Gi Va ]gg]cb`bchYg.=

F Ygci fWg

DfYgW]VYX F Ygci fWg

HK 99? @MF 958 B; G: CF H< G 7CI FG9 K @@ 69 5J 5 @56 @9 H< FCI ; < @9; 5BHC @B? B  
7CI FG9 ACC8 @9 D5; 9: FCA K 99? %

H7 @5GG G7 < 98I @9 K @@ 69 A 589 5J 5 @56 @9 B H< 9 7CI FG9 GI DD @9A 9BH5FM  
B: CFA 5H CB 5B8 5GG9GGA 9BH 89H5 @CB H< 9 7CI FG9 ACC8 @9 D5; 9: FCA K 99? %

F YWca a YbXYX F Ygci fWg

F 958 B; @GHG 5B8: @A 7 @DG K @@ 69 A 589 5J 5 @56 @9 H< FCI ; < H< 9 ACC8 @9 7 @5GG  
D5; 9

7ci fgY 9j U'i Uhjcb UbX 8Yj Y`cda Ybh

Mci fYj U'i Uhj Y ZYXVUW ]g [ U h Y f Y X d Y f ] c X ] W ` m i g ] b [ z U a c b [ ` c h Y f a Y U b g z I B G K f j W c i f g Y ` U b X  
H Y U W X ] b [ ` 9 j U i U h j c b ` U b X ` a d f c j Y a Y b h f A M 9 I d Y f ] Y b W E d f c W g g " b Z c f a U ` Z Y X V U W ` U b X ` W U g g  
[ Y b Y f U h X ` Z Y X V U W ` U f Y ` U g c ` ] a d c f h U b h z ` U b X ` h Y g Y ` Z Y X V U W ` a Y W X U b ] g a g ` U f Y ` \ Y ` d Z ` ` h c ` a m i W c b h ] b i U `  
X Y j Y ` c d a Y b h c Z h ] g ` W c i f g Y " M c i f ` Z Y X V U W ` ] g j Y f m ] a d c f h U b h c ` a Y ` U b X ` = i g Y ` m c i f ` Z Y X V U W ` h c  
W c b h ] b i U ` m i d X U h ` h ] g ` W c i f g Y ` ! Z c f ` Y I U a d ` Y z ` h ] g ` m Y U f ` = U a ` k c f \_ ] b [ ` X ] f Y W h m k ] h ` ] g g i Y g ` h U h k Y ` U f Y ` Z U W X  
k ] h ` h c X U m / # a ` k c f \_ ] b [ ` W Y U h j Y ` m k ] h ` h Y ` c b ` ] b Y ` X Y ` ] Y f m z ` U b X ` = U a ` U X X f Y g g ] b [ ` h Y ` a c c X ` Y ` d U [ Y ` h c ` a U \_ Y  
] h a c f Y ` i g Y f Z ] Y b X ` m ` = \ U j Y ` f Y h c i [ \ h i h Y ` U g g Y g g a Y b h i U g \_ g ` h c ` \ Y ` d ` g h f Y U a ` ` ] b Y ` U b X ` ] a d f c j Y ` h Y ` W c i f g Y  
Z c f ` & \$ & \$ "

=hUb\_mci Zcf\_mci f`ja Y"

Gi Va ]gg]cb`cZ5ggYgga YbhiHUg\_g

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

Ʒmci`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`UgY`  
HY`Yd`\\cbY`9I`HYfbU`Gi`ddcfhcb`-`,`)`"``'``%cf`Ya`Uj`h`Ya`icb`YI`HYfbU`HY`hgi`ddcfh4`i`bgk`"YXi`"Ui`""Gi`ddcfh`  
\\ci`fg`UfY`,`.\$\$Ua`-`-%\$.\$\$da`icb`k`YY`XUmg`UbX`-`.\$\$Ua`-`).\$\$da`icb`k`YY`YbXg`fI`\*)`XUmg`U`mY`UfI`"Ʒmci`  
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`Xi`Y`hc`U`Zi`h`k`]h`Hi`fb]h]b`mc`i`a`Um`Udd`m`Zc`f`Ub`YI`HYbg]cb`z`Vi`hmc`i`  
a`i`gh`fY`hU]b`mc`i`f`h]W`Yhbi`a`VYf`Z`ca`9I`HYfbU`Gi`ddcfh`fU`cb[`k`]h`Ubmc`h`Yf`fY`Yj`Ubh`Xc`W`a`Yb`hg`L`hc`  
]b`Wi`XY`Ug`Yj`]XYb`V`hc`gi`ddcfhmc`i`f`YI`HYbg]cb`Udd`]W]h]cb`"Ʒmci`Ya`Uj`9I`HYfbU`Gi`ddcfhmc`i`k`j`  
Ui`hc`a`U`h]W]m`fY`W]j`Y`U`h]W`Yhbi`a`VYf`z`Vi`h]Z`mci`HY`Yd`\\cbY`mc`i`k`j`b`YYX`hc`gd`Y`W]Z]W]m`Ug`\_`Zc`f`cbY`"  
Hi`fb]h]b`U`gc`d`fcj`]XYg`i`d`XU`HY`g`cb`h`Y]f`gm`gh`Ya`ig`hU`h`g`cb`Hk`]h`Yf`"

;`YbYfU`mz`UggYgga`YbhiHUg\_g`a`i`gh`VY`gi`Va`]h`YX`Y`Y`W`fcb]W]m`j`]U`Y]h`Yf`Hi`fb]h]b`cf`U`A`cc`X`Y`  
Ugg][`ba`Yb`h`-`b]bg`h`Ub`W`g`k`\\Y`fY`h`g`]g`b`ch`d`c`gg]V`Y`z`]h`k`j`VY`g`h`U`Y`X`cb`mc`i`f`W`ci`fg`Y`g`A`cc`X`Y`g`]h`k`]h`  
U`HY`fb`U`h]`Y`gi`Va`]gg]cb`XY`hU]g`"

:`cf`]b`Z`fa`U`h]cb`cb`\\ck`hc`gi`Va`]h`Ugg][`ba`Yb`hg`cb`]b`Y`j`]U`A`cc`X`Y`.\\`h`d`g`#`gh`XYb`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`i`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`V`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`i`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`i`[`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'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 dY'W'X'cZYj Yfmcby']b'h'Y'I BGK 'W'a a i b]m
- 'cW'W'h'gYfj ]W'g'UbX' ]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 bXYfghUbx]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 ""

[\h'hd.##gi V'Y'W'i \]X'Y'g" \]V'f'U'f'm'i b'gk "Y'X'i "U'i #' \]g'Y'#J'V'c'i h' \]g'Y](#)

5 WUXYa ]W=Zcfa Uh]cb

: cf`YggYbh]U`ghi XYbh]bZcfa Uh]cb`fY`Uh]b[ `tc.

- fYei Yg]Zcf`YI H`bg]cb/
-