

HØX`]W\ Yf`F Y]hi bZU``Ui Z`F Ø[ Yb.  
%( !>À\ f][ Y`gh]fVh`hfU[ ]gW\

6Y]`Y]bYa`F Y]hi bZU``Ui Z`F Ø[ Yb`k i fXY`Y]b`%( !>À\ f][ Yg  
A`ÀXW\Yb`hØX`]W\`j Yf`Ymhž`U`g`]\f`DZYfX`j cf`Y]bYa`HfU`hcf  
gW\Yi hY"

5a`8]YbghU[ bUW\ a` ]hU[`i [ UV`Yg`Ui Z`F Ø[ Yb`Y]bYb`hfU[ ]gW\Yb  
F Y]hi bZU``ž`XYf`XUg`@YVYb`Y]bYg`%( !>À\ f][ Yb`A`ÀXW\Ybg`ZcfXYfhY"  
8]Y`> [ YbX`]W\Y`k Uf`a` ]hY]bYf`; fi ddY`j cb`gYW\g`k Y]hYfYb  
F Y]hYfb`Ui ZY]bYa`gW\ a`U`Ybž`Ugd`U`h]YfhYb`i`Y`Xk Y[ `bU`Y  
6i V`\_Yj ]h`i bhYfk Y[ gž`U`g`g]W\`XYf`J cfZU``YfY][ bYhY"K`À`fYbX`g]Y  
Ub`XYf`< ]bhYfgY]hY`XYf`; fi ddY`f]hž`b`À`YfhY`g]W\`Y]b`HfU`hcf`a` ]h  
Y]bYa`gW\k YfYb`5bVUi [ Yf`À`h] cb`>` ]bhYb`i bX`ZØ`fhY`ni`XYa  
hØX`]W\Yb`i b[ `ØW`"

B UW\`XYb`6Yf]W\hYb`XYf`Dc`nY]`YfgW\ fYW`hY`g]W\`XUg`DZYfX`XYf  
↑ b[ Yb`F Y]hYf]bž`U`g`XYf`HfU`hcf`]b`]fY`B`À`Y`\_Ua`" `> XYf  
`Y`\_h]gW\Yb`G]hi Uh]cb`gdfUb[ `XUg`DZYfX`Ui Zž`k`cXi`fW\`X]Y`F Y]hYf]b  
UV[ Yk`cfZYb`k i fXY"8Yf`&\*!>À\ f][ Y`HfU`hcfZU`fYf`Yf`\_UbbhY`X]Y  
; YZU`f`ni`gd`À`h`i bX`\_cbbhY`b]W\h`a`Y`f`fYW\hY]h][ `VfYa`gYb`cXYf  
Ui`gk Y]W\Yb"8Ug`gW\k YfY`; Yf`À`hž`Y]b`; fi VVYfž`ØVYffc`hY`XUg  
A`ÀXW\Ybž`k Y`W\Yg`Y]XYf`bcW\`j cf`C`fh`Ub`XYb`gW\k YfYb  
J Yf`Yhni b[ Yb`ghUfV"8]YgY`hfU[ ]gW\Y`K`YbXi b[ `XYg`; YgW\Y`Ybg  
`Uh]b`XYf`F Y][ ]cb`[ fc» Y`6YghØfni b[ `Ui`g[ Y`Øgh"

< ]bhYf[ fØbXY`ni a`i bZU``i bX`XYf  
VYhfc ZZYbYb`> i [ YbX`]W\Yb

8Ug`j Yfghc`fVYb`Y`A`ÀXW\Yb`k Uf`Y]b`U`\_h] Yg`A`h[ `]YX`XYf  
; Ya`Y]bXY`i bX`bU`a`i bhYf`UbXYfYa`Ub`XYb`GhØfhYVY`\_Yf  
: Yghgd]Y`Yb`hY]ž`k`c`g]Y`U`g`?`Y]bXUfghY`Yf]b`Ui`ZhfUh"8]Y

J YfUbgH`hi b[ ž`X]Y`Ä`f`]W`nU`f`Y]W`Y`6Ygi W`Yf`U`b`c`W`h`k` ]fX`j` c`b`  
Y]b`Ya` `Yb[ U[ ]YfhYb`HYUa` `cf[ Ub]g]Yfhž`XUg`bi`b`]b`X]YgYf`  
gW`k`YfYb`NY]hj`c`b`XYf`æ`U`b]hYf`i` bZU```]`ZY`i` bhYfghØhnh`k` ]fX`"  
F`i`b`X`%)`GY`Y`g`c`f[ Yf`g]b`X`]a` `9]bgUhmž`i`a` `: fY`i`b`XY`ž`5`b[ Y`Ä`Öf][ Y`  
i`b`X`k`Y]hYfY`VY`hfc`ZY`b`Y`DY`fg`c`b`Y`b`ni` `VY`hf`Y`i`Y`b`"

8]Y`Dc`nY]`Ä`U`h]b`Zc`[ Y`XY`g`i` bZU`g`9fa` ]h`i` b[ Y`b`Y]b[ Y`Y]hY`hž`i` a`  
XY`b`[ Y`b`U`i`Y`b`5`V`U`i`Z`ni` `Ä`f`Y`b`"8`Y`f`: U`Ä`f`Y`f`X`Y`g`H`f`U`h`c`f`g`g]Y`Ä`h`g]W`  
X`Y`a` `5`b`Z`U`b[ g]Y`f`X`U`W`h`X`Y`f`Z`U`Ä`f`Ä`g]g][ Y`b`H`Ö`h`i` b[ `U`i` g[ Y`g`Y`h`h`"8]Y`g`Y`  
f`Y`W`h`]W`Y`b`G`W`f]h`Y`g]b`X`b`c`h`k`Y`b`X][ ž`i`a` `X]Y`i`a` g`h`Ä`b`X`Y`X`Y`g`  
i`b`Z`U`g`ni` `i`b`h`Y`f`g`i` W`Y`b`i`b`X`Y`j`Y`b`h`i`Y`Y`J`Y`f`g`Ä`i`a`b]g`g`Y`  
U`i`Z`h`i`X`Y`W`\_`Y`b`ž`X]Y`ni` `X]Y`g`Y`a` `h`f`U[ ]g`W`Y`b`J`c`f`Z`U```[ Y`Z`Ø`Ä`f`h`Ä`U`V`Y`b`  
\_`Ö`b`b`h`Y`b`"

Æ`Y]b`Ya` `k`Y]hY`f`Y`b`J`c`f`Z`U`ž`X`Y`f`\_`Y]b`Y`X]f`Y`\_`h`Y`J`Y`f`V]b`X`i` b[ `ni`  
X]Y`g`Y`a` `i`b`Z`U```Ä`U`h`ž`Y`f`Y][ b`Y`h`Y`g]W`Ä`U`a` `i` `Y]W`Y`b`H`U[ `U`i`Z`i`g`Y`X`c`a`  
Y]b`Ä`Ä`b`]W`Y`f`F`Y]h`i`b`Z`U```<]Y`f`V`Y]k`c`h`Y`b`nk`Y]A`Ä`X`W`Y`b`]a` `5`h`Y`f`  
j`c`b`b`Y`i`b`i`b`X`Y`Z`Ä`Ä`f`Y`b`a` ]h]Ä`f`Y`b`D`Z`Y`f`X`Y`b`X]Y`6`i`b`X`Y`g`g`h`f`U`»`Y`  
6`%`%`%`Ø`V`Y`f`e`i`Y`f`Y`b`"5`i`W`Ä`X`c`f`h`j`Y`f`c`f`Y`b`X]Y`A`Ä`X`W`Y`b`X]Y`?`c`b`h`f`c`Y`Y`  
Ø`V`Y`f`]Ä`f`Y`H]Y`f`Y`ž`k`U`g`ni` `Y]b`Ya` `Ni`g`U`a`a`Y`b`g`h`c`»`a` ]h`Y]b`Ya` `D`\_`k`  
Z`Ø`Ä`f`h`Y`"6`Y]X`Y`A`Ä`X`W`Y`b`k`i`f`X`Y`b`V`Y]X]Y`g`Y`a` `i`b`Z`U`g`W`k`Y`f`j`Y`f`Y`h`h`  
i`b`X`a`i`g`g`h`Y`b`a` ]h`F`Y`h`i`b[ g`Ä`i`V`g`W`f`U`i`V`Y`f`b`]b`g`?`f`U`b`\_`Y`b`Ä`U`i`g`  
[ Y`V`f`U`W`h`k`Y`f`X`Y`b`"8]Y`g`Y`k` ]Y`X`Y`f`Ä`c`h`Y`b`J`c`f`Z`Ä`Y`n`Y][ Y`b`ž`k` ]Y`  
k` ]W`h][ `X]Y`G]W`Y`f`Ä`Y]h]a` `i`a` [ Ub[ `a` ]h`D`Z`Y`f`X`Y`b`i`b`X`]b`X`Y`f`B`Ä`Ä`Y`  
j`c`b`G`h`f`U`»`Y`b`]g`h`"

F`Y]h`i`b`Z`Ä`Y`k` ]Y`X]Y`g`Y`k`Y`f`Z`Y`b`b]W`h`i`b`i`f`: f`U[ Y`b`ni`f`d`Y`f`g`Ö`b`]W`Y`b`  
G]W`Y`f`Ä`Y]h`U`i`Z`ž`g`c`b`X`Y`f`b`U`i`W`Ä`ni`f`B`c`h`k`Y`b`X][ \_`Y]h`ž`\_`U`f`Y`  
F`Y[ Y`i`b[ Y`b`i`b`X`G]W`Y`f`Ä`Y]h`g`j`c`f`\_`Y`Ä`f`i`b[ Y`b`ni` `h`f`Y`Z`Y`b`"Æ`  
`Ä`b`X`]W`Y`b`; Y[ Y`b`X`Y`b`ž`k`c`U`b`X`k` ]f`h`g`W`Ä`U`Z`h]W`Y`: U`Ä`f`n`Y`i` [ Y`Ä`Ä`i`Z][  
U`b`ni`h`f`Y`Z`Y`b`g]b`X`ž`g`c`h`Y`V`Y`g`c`b`X`Y`f`Y`5`i`Z`a`Y`f`\_`g`U`a`\_`Y]h`U`i`Z`X]Y`  
G]W`Y`f`Ä`Y]h`j`c`b`F`Y]h`Y`f`b`i`b`X`U`b`X`Y`f`Y`b`J`Y`f`\_`Y`Ä`f`g`h`Y]b`Y`Ä`a`Y`f`b`[ Y`Y`[ h`  
k`Y`f`X`Y`b`"8`Y`f`h`f`U[ ]g`W`Y`J`Y`f`i`g`h`Y]b`Y`g`g`c`Ä`b[ Y`b`@`V`Y`b`g`g`W`c`W\_]Y`f`h`  
X]Y`; Y`a`Y]b`X`Y`i`b`X`fi`Z`h]b`9`f]b`b`Y`fi`b[ ž`k` ]Y`k` ]W`h][  
J`Y`f`U`b`h`k`c`f`h`i`b[ g`V`Y`k`i`g`g`h`g`Y]b`]a` `G`h`f`U`»`Y`b`j`Y`f`\_`Y`Ä`f`i`b`X`]a` `i`a` [ Ub[  
a` ]h`H]Y`f`Y`b`]g`h`D`f`Ä`j`Y`b`h`j`Y`A`U`»`b`U`Ä`a`Y`b`i`b`X`G`W`Ä`i`i`b[ Y`b`\_`Ö`b`b`h`Y`b`  
X`U`ni` `V`Y]h`f`U[ Y`b`ž`Ä`Ä`b`]W`Y`i`b`Z`Ä`Y`]b`Ni`\_`i`b`Z`h`ni` `j`Y`f`Ä`]b`X`Y`f`b`"

9]b`6`]W\_`Ui Z`X]Y`G]W\ Yf\ Y]h`VY]a`F Y]hYb

8]YgY`J cfZ`Y`g]bX`Y]b`5`Ufa`nY]W\ Yb`Z0f`U`Y`6YhY`][`hYb`]a  
6YfY]W\`XYg`FY]hYbg`i bX`XYf`UbXk`]fhgW\ UZh`]W\ Yb`5fVY]h`9g`]gh  
i bYf`Ågg`]W\ ž`XUgg`FY]hYfž: U\ fYf`j`cb`UbXk`]fhgW\ UZh`]W\ Yb  
; Yf`ÅhYb`i bX`U`Y`J Yf`Y\ fghY`]bY\ a`Yf`]b`gc`W\ Yb`6YfY]W\ Yb  
6Yk`i`ggghY]b`Z0f`X]Y`G]W\ Yf\ Y]hgj`c fgW\ f]ZhYb`Yb`k`]W\_`Y`b`"8 Ug  
J Yfgh`ÅbXb]g`i bX`X]Y`5`\_nYdhUbn`j`cb`G]W\ Yf\ Y]hga`U» bU\ a`Yb  
\_0bbhYb`XUni`VY]hfU[ Ybž`i`bb`0h][`Y`HfU[`0X]Yb`ni`j`Yfa`Y]XYb`  
K`cf\_g\cdg`i bX`G\W\i`i`b[ Yb`\_0bbhYb`↑`b[ Y`F Y]hYf`gYbg]V`]g]YfYb  
i bX`A`U» bU\ a`Yb`ni`f`J`Yfa`Y]Xi`b[`j`cb`l`bZ`Yb`\Yfj`cf\YVYb`"

< ]b hYf[ fi bX]b Zc fa Uh]c bYb`ni`F Y]hi bZ`Y`b  
]b`8 Yi hgW\`Ub X

F Y]hi bZ`Y`g]bX`Y]b`YfbghYg`DfcV`Ya`ž`]bgVYgcbXYfY`]b`ÅbX`]W\ Yb  
; YV]YhYb`8 Yi hgW\`UbXg`" @Ui`h`8`UhYb`XYf`8 Yi hgW\ Yb`F Y]hYf`]W\ Yb  
J YfY]b][`i`b[`fi`B`L`YfY][`bYb`g]W\`Å\`f`]W\`j`]Y`Y`HUi`gYbXY`j`cb  
l`bZ`Y`b`]a`Ni`gUa`a`Yb\Ub[`a`]h`DZYfXYb`"K`Å\`fYbX`X]Y`a`Y]ghYb  
X]YgYf`l`bZ`Y`Y`[`]a`dZ]W\`j`Yf`Ui`ZYbž[`]Vh`Yg`Y]XYf`Ui`W\`:`Å`Y`a`]h  
gW\`k`YfYa`5`i`g[`Ub[`c`XYf`gc[`Uf`Hc`XYgZ`Y`b`"<`Åi`Z][`Y`l`fgUW\`Yb  
g]bX`XUg`d`0hn`]W\ Y`9fgW\ fYW\_`Yb`XYf`DZYfXYž`a`Ub[`Y`b`XY  
9fZ\`fi`b[`XYf`F Y]hYf]bbYb`i`bX`F Y]hYf`gck`]Y`i`bj`cf\Yf[`YgY\`YbY  
6Y[`Y[`bi`b[`Yb`a`]h: U\fnYi`[`Yb`"

8]Y`;`YgYhn[`YVi`b[`VYn0[`]W\`XYf`G]W\ Yf\ Y]h]a`GhfU» Ybj`Yf`Y\`f  
i`a`ZUggh`Ui`W\`6Ygh]a`a`i`b[`Yb`Z0f`F Y]hYf`"F Y]hYf`g]bX`j`YfdZ]W\ hYhž  
]b`VYgh]a`a`hYb`6YfY]W\ Yb`fYZY`\_h]YfYbXY`?`Y]Xi`b[`ni`hfU[`Yb`i`bX  
VYgcbXYfY`F`0W\_g]W\ h`Ui`Z`XYb`J`Yf`Y\`f`ni`bY\`a`Yb`"8 Ybbc`W\  
\_ca`a`h`Yg`]a`a`Yf`k`]YXYf`ni`\_f]h]gW\ Yb`G]hi`Uh]cbYbž`k`Ybb`F Y]hYf  
a`]h`a`chcf]g]YfhYb`: U\fnYi`[`Yb`\_cbZfcbh]Yfh`k`YfXYbž`]bgVYgcbXYfY  
Ui`Z`gW\`a`U`Yb`K`Y[`Ybž`k`c`k`Yb][`D`Uhn`Z0f`5`i`gk`Y]W\`a`Ub`0j`Yf  
V`Y]Vh`"

GhUh]gh]\_Yb`ni`F Y]hi bZ`Y`b`]b`8 Yi hgW\`Ub X

⇒`a`J\`f`&\$\$`fY[`]ghf]YfhY`X]Y`l`bZU`Zc`fgW\`i`b[`XYf`J`Yfg]W\ YfYf

fl 8J ŁØVYf" "\$\$\$FY]hi bZÀ`Yžj cb`XYbYb`Yhk U`%) i`gWk YfY  
JYf`Yhni b[ Yb`ni f: c`[ Y`UhhYb" Cdh]a ]Yfi b[ Yb`]b`XYf`G]WYf`Y]h  
j cb`FY]hgW`i`Yb`i bX`FY]hj YfY]bYb`g]bX`]b`XYb`YhnhYb`đ\`fYb  
Ub[ Yghc»Yb`k cfXYbž`i a`X]Y`5bnU\`XYf`I bZÀ`Y`ni`fYXi`n]YfYb"  
=bj Ygh[ Uh]j Yf`5bgUhn`i bX`DfÀj Ybh]cbgdfc[ fUa`a`Y`gc`Yb`XUni  
VY]hfU[ Ybž`XUg`6Yk`i gghgY]b`j cb`FY]hYfb`i bX`5i`hcZU`fYfb`ni  
gW`ÀfZYb"

9]bY`U\_hi`Y`Y`I`a`ZfU[ Y`i`bhYf`FY]hYfb`Yf[ UVž`XUgg`Yhk U`&) i`XYf  
6YZfU[ hYb`VYfY]hg`Y]ba`U`]b`Y]bYb`JYf`Y`fgi`bZU`j`Yfk`]W`Y`h  
k`UfYb"8]YgY`8UhYb`k`Y]gYb`Ui`Z`X]Y`B`chk`YbX][`\_Y]h`\]bž`gck`c`\`  
X]Y`FY]hdfU]`g`U`g`Ui`W`XUg`JYf`Y`fgj`Yf`U`hYb`Ui`Z`@Ub`XghfU»Yb  
ni`j`YfVYggYfbž`i`a`X]Y`G]WYf`Y]h`U`Yf`6YhY]][`hYb`ni  
[ Yk`À`f`Y]ghYb"

DgmW`c`gc`n]U`Y`I`b`hY`fghØ`hni`b[`ZØf`6Y`hfc`ZZY`b`Y  
b`UW`I`b`ZÀ`Y`b

8]Y`6Y`hfY`i`b[`j`cb`I`b`ZU`cdZYfb`i`bX`]fYb`5b[ Y`Øf][`Yb`b`UW  
gW`k`Yfk`]Y[ Yb`XYb`J`cfZÀ`Yb`]ghj`cb`Y`bcfa`Yf`6Y`XY`i`hi`b[`"`=b  
A`YX]\_Uh]cbg!`i`bX`?`f]gYb`g]hi`Uh]cbYb`]gh`X]Y`gc`Zcfh][`Y  
dgmW`c`c`[`]gW`Y`I`b`hY`fghØ`hni`b[`X`i`fW`:`UW`\_f`À`ZhY`Yb`hgW`Y]X`Yb`Xž  
i`a`X]Y`Ya`ch]cb`U`Yb`i`b`X`dgmW`c`c`[`]gW`Yb`:`c`[`Yb`j`cb`HfUi`Yf`i`b`X  
GW`c`W`\_ni`VYk`À`h][`Yb`"C`f[`Ub]gUh]cbYb`k`]Y`X]Y`æ`\`Ubb]hYf  
I`b`ZU`\]`ZY`V]Y`hYb`gd`Yn]Y`Y`GY`Y`gc`f[`YX]Yb`ghY`Ubž`i`a`gck`c`\`  
6Y`hfc`ZZY`b`Yb`U`g`Ui`W`X`Yb`9]bgUhn`\_f`À`ZhYb`<]`ZY`ni`Y`ghYb"

=b`X]YgYa`U\_hi`Y`Yb`:`U`Ui`Z`F`Ø[`Yb`ghY`Yb`XYb`6Y`hfc`ZZY`b`Yb`fi`b`X  
%)`GY`Y`gc`f[`Yf`ni`f`J`Yf`ZØ[`i`b[`ž`i`a`X]Y`HfUi`YfVYk`À`h][`i`b[`ni  
i`bhY`fghØ`hni`Yb"8]Y`J`Yf`UfVY]hi`b[`X`Y`g`J`Yf`i`ghY`g`Y]b`Y`g`↑`b[`Yb  
A`Yb`gW`Yb`]b`gc`W`h`fU[`]gW`Yb`I`a`gh`À`b`XYb`Yf`Zc`f`XY`fh`c`Zh  
`Ub[`Zf]gh][`Y`<]`ZY`i`b`X`6Y[`Y]hi`b[`"Ghi`X]Yb`VY`Y[`Ybž`XUgg`X]Y  
dgmW`c`gc`n]U`Y`I`b`hY`fghØ`hni`b[`Y]b`Yb`Yf`YV`]W`Yb`9]b`Zi`gg`Ui`Z`X]Y  
F`Y`g`]Yb`n`j`cb`HfUi`Yfb`XYb`\`Uh`i`b`X`g]Y`VY]`XYf`6Yk`À`h][`i`b[`\`fYf  
9a`ch]cbYb`i`bhY`fghØ`hnh"

Y`b`]W`Y`9fY][`b]ggY`i`b`X`XYfYb

## 5i gk ]f\_i b[ Yb

æ 'ſ\f'&\$%%'\_Ua 'Yg']b'6UmYfb'ni 'Y]bYa 'j Yf[ 'Y]W\UfYb'i bZU`ž  
VY]'XYa 'Y]b'A ÅXWYb'VY]a 'FY]hYb'j cb'Y]bYa 'HfU\_hcf'YfZUggh  
k i fXY"'8Yf'J cfZU``Z0\fhY'ni 'Yf\0\hYf'5i Za Yf\_gUa \_Y]h  
\]bg]W\h]W\XYf'G]W\Yf\Y]hga U» bU\ a Yb'Z0f'FY]hYf'i bX'XYf  
J Yf\U'hYbgfY[ Y'b'Z0f'U bXk ]fhgW UZh]W\Y': U\fnYi [ Y']a  
GhfU» Ybj Yf\_Y\ f"'æ'XYf': c'[ Y'k i fXYb'æ]h]Uh]j Yb'[ YghUfhYhž'i a  
XUg'6Yk i ggghY]b'Z0f'X]Y': YZU\ fYb'ja 'GhfU» Ybj Yf\_Y\ f'ni 'gW ÅfZYb  
i bX'9a dUh\]Y'ni 'Z0fXYfb"

8]Y'I bZÅ`Y'Ui Z'F0[ Yb'i bX'I gYXca 'k ]fZh'YfbYi h'X]Y': fU[ Y'Ui Zž  
k ]Y'X]Y'G]W\Yf\Y]hgghUbXUfXg'Z0f'U`Y'J Yf\_Y\ fghY]'bY\ a Yf'  
DZYfXY'i bX'FY]hYf'gck ]Y'5i hcZU\ fYf' 'j YfVYggYfh'k YfXYb'\_0bbYbž  
i a 'gc`W\ hfU[ ]gW\Y'J cfZÅ`Y']b'Ni \_i bZh'ni 'j Yf\]bXYfb"

8YhU]`g

6Ygi W\Yb'G]Y'i bg'Ui Z.'b!U[ "XY