

J Yf_Y\fgW Ucg]b`K c`ZYbVØhhY`. `A Y\ fYfY
5a dY`b`Ui g[YZU`Yb`

⊕`K c`ZYbVØhhY`g]bX`a Y\ fYfY`5a dY`b`Ui g[YZU`Yb`
HYW.b]_Yf`UfVY]hYb`VYfY]hg`Ub`XYf`6Y\YVi b[`XYf
GhØfi b[Yb`"K Y]hYfY`l dXUhYg`Zc`[Yb`

&\$"\$, "&\$&(ž%\$. \$(`l \fž`ni `Yhnh`U`hi`U`]g]Yfh`&\$"\$, "&\$&(ž%\$. \$(
l \f

⊕`K c`ZYbVØhhY`[]Vh`Yg`XYfnY]h`Y]b`[fUj]YfYbXYg
J Yf_Y\fgdfcV`Ya . `A Y\ fYfY`5a dY`b`g]bX`gY]h`\Yi hY`A cf[Yb
Ui g[YZU`Yb`"8]Yg`k i fXY`j cb`XYf`Dc`]nY]`gck]Y`XYb`GhUXhk Yf_Yb
VYghÅh[h`HYW.b]gW.Y`GhØfi b[Yb`\UVYb`Ub`j YfgW]YXYbYb
GhY`Yb`]a`GhUXh[YV]Yhni`Y]bYa`J Yf_Y\fgW Ucg[YZØ\fhž`XUg
j]Y`Y`5i hcZU\ fYf`Yf\YV`]W`VYY]bhfÅW.h[h`

8]Y`[YbUi Y`5bnU\`XYf`VYhfcZYbYb`5a dY`Ub`U[Yb`]gh`bcW`b]W.h
VY_Ubbhž`UVYf`X]Y`GhUXhk Yf_Y`\UVYb`VYfY]hg`HYW.b]_Yf
a cV`]g]Yfhž`X]Y`g]W`i a`X]Y`GhØfi b[Yb`_Øa`a Yfb`"8]Y`6Øf[Yf
k YfXYb`[YVYhYbž`VYgcbXYfg`j cfg]W.h[`ni`gY]b`i bX
[Y[YVYbYbZU`g`U`hYfbUh]j Y`Fci hYb`ni`k Å\`Ybž`i a`g]W.Yf`Ubg`N]Y`
ni`_ca`a Yb`

K c`g]bX`X]Y`5a dY`b`Ui g[YZU`Yb`3

8 Ug`J Yf_Y\fgdfcV`Ya`VYhf]Zh`a Y\ fYfY`GW`ØggY`ghY`Yb`]b
K c`ZYbVØhhY`"8Ufi bhYf`g]bX`X]Y`5a dY`b`Ub`XYf`@Ub[Y`GhfU»Y`]b
XYf`BÅ\`XYg`GW.k]a`a VUXYgž`Ua`?cfba Uf_h`gck]Y`Ub`XYf
: f]YXf]W`!K]\`Y`a`!GhfU»Y`]b`J YfV]bXi b[`a`]h`XYf
À[Yfa`Y]ghYfghfU»Y`"K Y]hYfY`VYhfcZYbY`GhfU»Yb`g]bX`X]Y
5XYfg\Y]a Yf`GhfU»Y`i bX`X]Y`; cg`UfgW.Y`GhfU»Y`"8]YgY`GhUbXcfhY

g]bX`b]W h`bi f`ghUf`_ZfYe i Ybh]Yfhž`gc bXYfb`gd]Y`Yb`Ui W`Y]bY
k]W h][Y`F c`Y`]a`hÄ[`]W Yb`J Yf`_Y\ f`ZØf`DYbX`Yf`i bX`5bk c\ bYf`

8]Y`5i gk]f`_i b[Yb`g]bX`gcZc fh`gdØfVUf. `5i hcZU\ fYf`a ØggYb`Ub
j]Y`Yb`GhY`Yb`Ub\ U`hYb`i bX`UVk UfhYbž`k Ug`ni`i b b`Øh][Yb
J YfnØ[Yfi b[Yb`ZØ\ fh`i`i » [Äb[Yf`g]bX`YVYbZU`g`VYhfcZZYbž`XU
j]Y`Y`5a dY`Ub`U[Yb`b]W h`a Y\ f`Z`b`_h]cb]YfYb`i bX`g]Y`bi b`Ui Z
Yhk Ug`UbXYfYg`Ub[Yk]YgYb`g]bXž`i a`g]W Yf`ØVYf`X]Y`GhfU» Yb`ni
[Y`Ub[Yb`

8]Y`GhUXh`K c`ZYbVØhY`U`h`X]Y`G]hi Uh]cb`YfZUgghž`]gh`UVYf`bcW
XUVY]ž`[YbUi YfY`bZcfa Uh]cbYb`ni`XYb`k Y]hYf`]b`gW UX\ UZhYb
5a dY`b`ni`gUa a`Y`b`5`_hi Y`Y`i dXUhYg`g]bX`UVgY\ VUfž`i bX`X]Y
J YfUbhk cfh]W Yb`g]bX`VYa Ø\ hž`XYb`6Yhf]YV`XYf`J Yf`_Y\ fgUa dY`b
gW bY`gha Ø[`]W `k]YXYf`Yfni ghY`Yb`

HYW b]gW Y`GhØfi b[Yb`g]bX`b]W h i b[Yk Ø\ b`]W

Gc`W Y`hYW b]gW Yb`GhØfi b[Yb`Ub`5a dY`Ub`U[Yb`g]bX`Y]XYf
b]W hg`i b[Yk Ø\ b`]W Ygž`_ØbbYb`UVYf`gck c\`ZØf`5i hcZU\ fYf`U`g
Ui W`ZØf`i`i » [Äb[Yf`Yf`YV`]W Y`F]g]_Yb`VYf[Yb`9g`]Y[h]b`XYf
J YfUbhk cfhi b[`XYf`GhUXhž`g]W Yfni ghY`Ybž`XUgg`X]Y
J Yf`_Y\ fgfY[Y`i b[`ghYhg`Z`b`_h]cb]Yfhž`i a`X]Y`G]W Yf`Y]h`U`Yf
J Yf`_Y\ fghY]`bY`a Yf`ni`[Yk Ä\ f`Y]ghYb`K Ufhi b[g!`i bX
F YdUfUhi fUfVY]hYb`g]bX`XU\ Yf`j`cb`[fc» Yf`6YXYi hi b["

⊖`XYf`Nk]gW YbnY]h`k]fX`X]Y`Dc`nY]`j YfghÄf`h`Ui Z`X]Y`GhfU» Yb
dUhfci]`]YfYbž`i a`X]Y`J Yf`_Y\ fgg]hi Uh]cb`ni`VYcVUW hYb`i bX
[Y[YVYbYbZU`g`Y]bni [fY]ZYb`6Y]gc`W Yb`B chZÄ`Yb`]gh
g]W Yfni ghY`Ybž`XUgg`X]Y`J Yf`_Y\ fghY]`bY`a Yf`_Y]bY`k Y]hYfYb
; YZU\ fYb`Y]b[Y\ Yb`8]Y`Dc`nY]`UddY`]Yfh`Ub`U`Y
J Yf`_Y\ fghY]`bY`a Yfž`VYgcbXYfg`UW hgUa`i bX`[YXi`X][`ni`gY]bž
V]g`X]Y`GhØfi b[Yb`VY\ cVYb`g]bX`

, VYf`X]Y`U`_hi Y`Yb`9bhk]W`i b[Yb`i bX`i`c fhgW f]hY`VY]`XYf
6Y\ YVi b[`XYf`hYW b]gW Yb`DfcV`Ya Y`k YfXYb`X]Y`GhUXhk Yf`_Y`i bX
X]Y`Dc`nY]`fY[Y`a Ä»][`]bZcfa]YfYb`5bk c\ bYf`i bX`i`U\ f[ÄghY

k YfXYb`U_hj`XUfi a`[YVYhYbž'g]W`ØVYf`X]Y`cZZ]n]Y`Yb`? Ub`À`Y`Ui Z
XYa`@Ui ZYbXYb`ni`U`hYb`i bX`Zcfa Uh]cbYb`j cb`XYb
ni gh`AbX][Yb`GhY`Yb`UVni k UfhYb`"

9]b`6`]W`Ui Z`X]Y`Ni`_i bZh`XYf J Yf`_Y`f`gg]W`Yf`_Y]h

8]YgY`J cfZ`À`Y`]b`K`c`ZYbVØhhY`k YfZYb`Y]b`@]W`h`Ui Z`X]Y
B`ch`k`Yb`X][`_Y]hž`X]Y`ZfUghfi`_hi`fi`bX`HYW`b]`_`XYf
J Yf`_Y`f`gUa`dY`b`fY[Y`a`À»][`ni`ØVYfd`fØZYb`i bX`[Y[YVYbYbZU`g
ni`a`cXYfb]g]YfYb`"à`NY]hU`hYf`XYf`8][`]hU`]g]Yfi`b[`_`ØbbhY`Y]bY
I`a`ghY`i`b[`Ui`Z]b`hY`][`Yb`hYg`J Yf`_Y`f`ga`UbU[Ya`Yb`h`X`Uni
VY]hfU[Yb`ž`GhØfi`b[Yb`gW`bY`Yf`ni`Yf`_Y`b`bYb`i bX`ni`VY`YVYb`"
8]Y`a`d`Ya`Yb`h]Yfi`b[`j`cb`GYb`gcfYb`i bX`9W`h`nY]hX`UhYb`_`ØbbhY`]b
Ni`_i`b`Zh`j`Yf`_]bXYfb`ž`X`Ugg`gc`W`Y`DfcV`Ya`Y`X]Y`J Yf`_Y`f`gg`hf`Òa`Y
XYf`GhUX`h`ghØfYb`i bX`gca`]h`X]Y`G]W`Yf`_Y]h`U`Yf`Yf`_`Ø`Yb`"

8Yf`5i`gZU`a`Y`f`Yf`Yf`5a`dY`b`]b`K`c`ZYbVØhhY`U`h`b]W`h`bi`f`X]Y
J Yf`_Y`f`gg]hi`Uh]cb`VYY]bZi`gg`hž`gcbXYfb`k`]f`Zh`Ui`W`:`fU[Yb`ni`f
Ni`j`Yf`À`gg][`_Y]h`XYf`gh`À`Xh]gW`Yb`ZfUghfi`_hi`f`Ui`Z`8]Y`GhUX`hk`Yf`_Y
`UVYb`]b`XYf`J Yf[Ub[Yb`Y]h`VYfY]hg`a`]h`À`b`]W`Yb`DfcV`Ya`Yb`ni
_`Aa`dZYb`[Y`UVhž`k`Ug`Ui`Z`a`Ò[`]W`Y`G`W`k`À`W`Yb`]a
K`Uf`hi`b[`ggm`ghYa`Y`]bXYi`hY`h`8]YgY`J cfZ`À`Y`_`ØbbhYb`6Øf[Yf`]bbYb
VYgcf[`h`a`UW`Yb`ž]bgVYgcbXYfY`]b`Y]bYa`C`fhž`k`c`9]bk`c`bYf`i`bX
6Ygi`W`Yf`_Y]bY`Zi`b`_h]cb]YfYbXY`J Yf`_Y`f`gfY[Y`i`b[
Ub[Yk`]YgYb`g]bX`"

à`XYf`Øb[YfYb`J Yf[Ub[Yb`Y]h`U`h`Yg`]b`8Yi`hgW`U`bX`]a`a`Yf
k`]YXYf`hYW`b]gW`Y`GhØfi`b[Yb`]b`gh`À`Xh]gW`Yb`ZfUghfi`_hi`fYb
[Y[YVYb`"9]b`VYa`Yf`_Y`bgk`YfhYg`6Y]gd]Y`]gh`XYf`5i`gZU`XYf
5a`dY`Ub`U[Y`]b`6Yf`]b`]a`Y`f`&`\$`\$`XYf`Ui`Z[fi`bX`]cb
Gc`Zh`k`UfYdfcV`Ya`Yb`Y]b][`Y`HU[Y`Ub`Y]h`K`Yb`b`a`Ub`X]YgY
G]hi`Uh]cb`a`]h`XYa`_U`_hi`Y`Yb`:`U`]b`K`c`ZYbVØhhY`j`Yf[`Y]W`hž`Z`À`h
Ui`Z`X`Ugg`hYW`b]gW`Y`GhØfi`b[Yb`]b`gh`À`Xh]gW`Yb`GmghYa`Yb`c`Zh`a`]h
a`cXYfbYb`J Yfk`U`hi`b[ga`Yh`cXYb`i bX`XYfYb`<`YfUi`gZc`fXYfi`b[Yb
j`YfVi`bXYb`g]bX`"

HYW\ b]gW\ Y' < YfUi gZc fXYfi b[Yb'i bX

@Øgi b[Yb

8]Y'5a dY`Ub`U[Yb`b'8Yi hgW\`UbX`g]bX`i]b`XYf`FY[Y`Ui ZY]b
nYbhfU`Yg`GhYi Yfi b[ggmgHYa`Ub[Yk`]YgYbž`XUg`fY[Y`a`À»][
[Yk UfhYhi bX`U`_hi`U`]g]Yfh`k YfXYb`a`i`gg"8Yb`bcW\`_ØbbYb
i bYfk UfhYhY`hYW\`b]gW\`Y`DfcV`Ya`Y`Ui ZhfYhYbž`X]Y`ni`5i`gZÀ`Yb
ZØ\`fYb" `b`K`c`ZYbVØhhY`k`i`fXY`VYgh`h[hž`XUgg`HYW\`b]_Yf`VYfY]hg
i bhYfk Y[g`g]bXž`i`a`X]Y`GhØfi b[Yb`ni`VY`VYbž`k`Ug`nY][hž`XUgg
X]Y`GhUXh`Y]bY`gW\`bY`Y`FYU`_h]cb`Ui`ZXYfUfh][Y`J`cfZÀ`Y`UbghfYVh"

9]b`j`Yf[`Y]W\`VUFYg`GnYbUf]c`hfUh`YhnhYg`d\`f`b`<`Ubbcj`Yf`Ui`Zž`k`c
a`Y\`fYfY`5a`dY`b`Ui`Z[`fi`bX`Y]bYg`Ghfca`Ui`gZU`g`Ui`gZ]Y`Yb" `b
X]YgYa` `: `U`k`i`fXYb`hYa`dcf`ÀfY`J`Yf`_Y\`fgdc`ghYb`Y]b[`YgYhnhž`i`a
XYb`J`Yf`_Y\`fgZi`gg`Ui`ZfYW\`hni`Yf\`U`hYbž`V]g`X]Y`5a`dY`b`k`]YXYf
Zi`b`_h]cb]YfhYb" `Gc`W\`Y`d`fc`U`_h]`j`Yb`A`U»`bU`a`Yb`_ØbbhYb`Ui`W\`]b
K`c`ZYbVØhhY`]b`6YhfUW\`h[`Ync[`Yb`k`YfXYbž`i`a`X]Y`G]W\`Yf\`Y]h`XYf
J`Yf`_Y\`fghY]`bY\`a`Yf`ni` `Yk`À\`f`Y]ghYb"

5i`gk`]f`_i`b[`Yb`Ui`Z`X]Y`J`Yf`_Y\`fgg]W\`Yf\`Y]h

8Yf`5i`gZU`j`cb`J`Yf`_Y\`fg`Y]hgmgHYa`Yb`\`Uhi`ba`]hY`VUFY
5i`gk`]f`_i`b[`Yb`Ui`Z`X]Y`J`Yf`_Y\`fgg]W\`Yf\`Y]h" `b`[`fØ»`YfYb`Gh`XhYb
_Ubb`X]Yg`ni`GhUi`gi`bX`Yf\`Ø`hYa`i`bZU`f]g]_c`ZØ\`fYb" `Ghi`X]Yb
nY][`Ybž`XUgg`Ub`?`fYi`ni`b[`Yb`c`b`Y`Zi`b`_h]cb]YfYbXY`5a`dY`b`X]Y
l`bZU`fUhY`Xi`fW\`gW\`b]h`i]W\`i`a`V]g`ni`&) `i`UbghY][`hž`XU
5i`hcZU\`fYf`i`bX`i`i`»`[`Àb[`Yf`GW\`k`]Yf][`_Y]hYb`\`UVYbž`XYb
J`Yf`_Y\`fgZi`gg`f]W\`h][`Y]bni`gW\`ÀhnYb" `Gc`W\`Y`GhUh]gh]_Yb
j`YfXYi`h]W\`Ybž`k`]Y`k`]W\`h][`Y]bY`ni`j`Yf`Àgg][`Y
J`Yf`_Y\`fg]bZfUghfi`_hi`f`ZØf`X]Y`G]W\`Yf\`Y]h`U`Yf`J`Yf`_Y\`fghY]`bY\`a`Yf
]gh"

8]Y`5i`Za`Yf`_gUa`_Y]h`XYf`GhUXhj`Yfk`U`hi`b[`ZØf`Y]bY`fUgW\`Y
6Y\`YVi`b[`XYf`GhØfi`b[`Yb`_ØbbhY`\`Y`ZYbž`a`Ø[`]W\`Y`;`YZU\`fYb`ZØf
5i`hcZU\`fYf`i`bX`i`i`»`[`Àb[`Yf`]b`K`c`ZYbVØhhY`ni`a`]b]a`]YfYb" `b`XYf
Nk`]gW\`YbnY]h]gh`Yg`ZØf`X]Y`6Øf[`Yf`k`]W\`h][`ž`j`cf]g]W\`h][`ni`gY]b`i`bX
Ui`Z`X]Y`J`Yf`_Y\`fgg]hi`Uh]cb`ni`UW\`hYbž`k`À\`fYbX`X]Y`HYW\`b]_Yf`Ub

XYf'6Y\YVi b['XYf'DfcV`Ya Y`UfVY]hYb"

⇒`XYf`_ca a YbXYb`NY]h`V`Y]Vh`UVni k UfhYbž`k]Y`X]Y`GhUXh
K c`ZYbVØhY`Ui Z`X]YgYb`J cfZU``fYU[]YfYb`k]fX`i bX`k Y`WXY
`Ub[Zf]gh][Yb`A U» bU`a Yb`ni f`J YfVYggYfi b[`i bX
5i ZFYW hYf`U`hi b['XYf`J Yf`Y`fg]bZfUghfi _hi f`[Yd`Ubh`g]bX" `8]Y
9ZZ]n]Ybn`XYf`K Ufhi b[`i bX`, VYfk UWXi b[`gc`WXYf`GmghYa Y`_Ubb
YbhgWXY]XYbX`XUZØf`gY]bž`XUgg`gc`WXY`J cfZÀ``Y`]b`XYf`Ni _i bZh
fYXi n]YfhcXYf`[Ubn`j Yfa]YXYb`k YfXYb"

8YhU]`g

6Ygi WXYb`G]Y`i bg`Ui Z.`b!U["XY