!"#\$%&'#()#*+,"*)#

-.&"#/0"12)%"#

!"#\$%"&#'()%(#*+,-."#"(#\$+/0".(1#\$+,,"#*2%&#)&&)%(#3"%4".#52/3#%3*()3(#6#&2)/(."7#8)⁶
&%"/#5"#3"%4"1#\$2"*(#/3"#93"#:&/%"#;.+%5"#</%#(+,-)%(#*)3*#."&=\$>"1#:.+?"()3(#*"*#
4+/@"&"@"*#6#,+%%\&'"*#*/.#&"#*#&7

B+/.#C%,#\(\mathbb{E}\) F?%1#</%#(.)0)%&&)%(#\(\frac{1}{8}\),"#\(\

5%*:+*)%**(#** ' *"3(#&/%#*",-&)%"3(#%3"*A,)-&"*7#X0"\$#\$"&)1#%**(3** #;"**-**\$(0)**%**&)## 4+.4"#50/3#0".."#5"#0%3#5"#.%Y#-+3#,j)#50%&#&"#*+/>))22#,))%(*#*/.(+/(1#%&#:+/0)%(#)\$>"(".#/3#-+!**"**##\$\$"#%&'(**%#&***+/:"#5O+*#5"#F /;P#:+/.#*)#;",,"#,)&)5"7 # \)#;",,"#(+/**)%(#5":/%*#:&/*#50/3#,+%*7#D+,,"#%&**2#03**%"3(#*+/0"3(#Q"#:)*# 5"#</+%#::).".#/3#4./)/#5"#,%&&"(1#**Ø**&**)**#&(#0%5",,"3(#:)*#</"*A+3#5"# , '5%\$),"3(7#I"\$>3%</","3(1#%&#)/.)%(#:/#:\#%&&\".#:+/.#)\$>"(".#/3"#+/#5"/H# 5+*"*1#,)%*#%**)&**#(#;".,","3(#\$+30)%3\$/#<**Ø**/3"#;+%*#**Ø**+3#J!;)%(#;/**%**#/3"#,)&)5%"# 6#\$+/:*#5"#.",Q5"*1#\$"**&\$**%#M#:."35#4+](#"(#."0%"3(#*)3*#\$"**"7#V%0)3(#\$"#:.%3\$%:"# :".*+33"&1#%&**£D)O}#%**(#?),)%*#",,"3'"#\$>"Y#&"#,'5"\$%31#*%#-**©**\$%**39#**#%43+.)%(#(+/(# 5"#*)#,)&)5%"7#8)%*#6#&)#0+%.#5'*+.,)%*#\$+/\$>'"#6#:&)(#5+*1#%3\$):)-&"#5"#*"#(+/.3".1 '()%(#\$&)%.#</"#\$"&)#",:%.)%(7#**D**#(**)%#**#)44.**)**0#3"#5%**Y3%**5"#?+/.*#:&/***W**(1#):. Q*#</0'\&\&"#"/(#,)34 #5/#,%\&\&"(#,)\\\%\\(#\)(#\&/\%#\&/\%\)#)0)\%(#\\$)/*'\#/3\\\\#*'0Q.\" \$+3*A:)A+37#^#\$"#,+,"3**[**&61#C%,#)0)%(#93)&","3(#:/#*"#:.+\$/.".#/3#:"/#52).4"3(1#)\$>"(". #3#:"A(#*)\$#5"#,%&&"(#"(#/3#;)4+(#5"#-+%*#6#-)*#:.%H7#\"&**+!\$#@*#**5%."*1#J -+33" F6F:%"31#:)3%</"**?/**#}**%**(#;)%(#-+/%&&%.#5)3*#/3"**#%**7**;/%**(#;"/#'()%(#;)%-&"1# "&&"#'()%(#:."**'"1#"(#&"#,%&&"(#32)0)%(#:)*#-%"3#\$/%**(5**7**#@5"#/5(),33('1#;J**,," !K# $)0)\%(\#^*)\%^*\%\#5"\#:\&"\%3"^*\#:+\%43'"^*\#5"\#,\%\&\&"(\#"(\#\&"^*\#)0)\%(\#"3;+/.3'"^*\#5)3^*\#^*)\#-+/\$>"1\#16.5\%$ \$+,,"#*%#"&&"#\$.)%43)**%**\$**##**Q**%**"33"#&"#&/%#)..)\$>".7#G&&"#)0)%(#\$**26A**3*P#*.**?**/*</ :+%(.%3"1#*"#*"3()%(#+::."**'"1#"(#.+/&)%(#5"*#M"/H#\$+,,"#"3#:&"**%**3"#\$.%*"7

S/.%"/H1#C%,#)0)%(##/.&'

J!a+3#*)341#;",," !b#l/#(+,-"*#,)&)5"#</)35#(/#3"#,)34"*#:)*1#"(#(/#(+,-"*#
"3\$+."#,)&)5"#</)35#(/#,)34"* !b#c/2*(F\$"#</"#?"#*/%*#\$"3*'#;)Ø#e/0."#5+3\$#&"*#
M"/HdK#

U&#)0)%(#4%_'#&)#?+/"#5"#*)#;",,"1#</%#4"%43)%(1#)&&+34'"#6#*"*#:%"5*7#G&&"#)0)%
"3(.+/0".(#/3#:"/#:&/*#&"*#M"/H1#,)%*#5"*#&).,"*#M#-.%**)**&***&\Q(\T#**G(#C\%,1#&/\%#
)/**\%1#*"3A(#*"*#M"/H#&"##]&".7

W'*+.,)%*1#%&#&"#:+/0)%(#"3937#U&#:+/..)%(#,O,"#)\$>"(".#5"#&)#-+/%&&%"#:+/.#&"/.#9
(.+%*#)3*1#f)"@+341#</%#:&"/.)%(#5"#;)%,#:.Q*#5"#*)#,Q."#,)&)**50%#3/)(***#?"+3#
"3#:+\$>"1#C%,#ᡚ≯?%#*"#*"3**(%%)%***"1#:."*</"#.%\$#"7

8)%*#*)#\$>)3\$"#3©**%***. Q()#:)*#**&**7#X&+.***£**%**&£#****/M()%(#&)#*/"/.#"(#&)#:&/%"#*/.#&)#
3/</"#)0"\$#/3#\$>%g+3#*)**&**#"**!%***3"#5%43©**£5**."#)::"& ' #3"#*".0%"@"1#"(#©%&#
*Õ)::. Q()%**6**##+.A.#5"#**©**\$3\$"%3("#5'**©**#**8**\$+&"1#/3"#0+**©%***6**!4**&:"&)#*+/5)%3#F).
5"..%Q"!`#

J!B+/**" F:+/**" !!dK#

C%,#*2%,,+-%&%*)#"(1#"3#*"#."(+/.3)3(1#):".R/(#/3#'&Q0"#5"#\$"@"#,O,"#'\$+&"#</%#
)\$\$+/.)%(7#!"#?"/3"#4).R+3#&**)**/*8R)

J!D+,-%"3#?/*<268\)#4)."#5"#h),5)",/3 !d!K#

D2'()%(#*)3*#5+/("#/3#:"3*%+33)%."#</%#."3(.)%(#\$>"Y#&/%#:+/.#&"*#0)\$)3\$"*#52>%0".7
)0)%(#5]#:.'0+%.#5"#:).A.#\$"#**%**6/1#,)%*#"3(."#&)#:&/%"#"(#*"*#-)4)4"*1#%"#*)0)%(#:)*#
\$+,,"3(#;)%."7#B/%*#%&#)0)%(#0/#C%,1#\$+/.)3(#*+/*#&)#:&/%"1#\$***)**#**%**#**5**5",**%**%*#/&%"
/*'*#"(#0O(/#52/3#>)-%(#+\$\$%5"3()&#'&%,'7

J!/#0"/H#)&&".#6#&)#4)."#5"#h),5)",/130!!K#

J!h"#*+.*#:)*#)/?+/.5Õ>/%7#i"*("#6#&)#,)%*+31#?"#*/%*#(!**K**##,)&

X0)%(&&"#,/.,/.'1#&)#."*:%.)A+3#.=:"/*"7#\)3*#M#:.O(".#)@"3A+31#C%,#)0)%(# .':&%</'!`#

 $\verb|J!a+3#*|341#;",,"1#(/#5'&%!\df\%#?"#."*("#&61#</%#0)#3+\df\df\df*/..%.$

 $U\&\#)0)\%(\#-+35\%\#:+/.\#:).A.1\#,)\%^*\#"\&\&"\#)0)\%(\#)4\%('\#;)\%-\&","3(\#\&"^*\#-.)^*1\#\$+,,"\#:+/.\#\&"\#.$

."("3%.#

J!h"#:).*#:)* j #+/#."0%"3*#0%("1#*%#(/#5+)%**!%#**M#)&&".

 $G\&\&\tilde{O}M\&\%(\#)::"\&\#5\tilde{O}/3"\#0+\%H\#34\&"\#()35\%*\#\tilde{O}\%\&\tilde{O}\#\&+\%43\#\%(7)$

^#:.'*"3(1#"3("35)3(#**&**) **&Q**)"#&/%#5",)35".**#Q**)&&".#?/***\(\infty\)**&&".#?/***\(\infty\)**&\(\infty\)#4)."1#C%,#."0%(#"3# :"3* ' "#&"*#,)%3*#(.",-&)3("*#5"#*)#;",,"1#*"*#4.)35*#