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

,-*!./#!01.!.\$22*%2#!+3*451.67!1.!'8!'6!9')-6!.%+0!16!1%#!9+9*%67!:\$6!'%.6*1;!+8!.%+07!1!
5+2;!;4'<<2*!8*22!.6*1;'2#7!-1(284+<*%!;4+=.!.=166*4'%)!+%6+!6-*!)4+\$%;
?+4!*+,"-. !, /07*!0-+!0+4/*;!1.!1!4'5/.-10!91%!0'6-'%!6-*!@1.6!A16*!;'.64'567!6-'.!;1#!
01.!6-*!2\$5/'*.6!-*!-1;!-1;!'%!B\$'6*!1!0-'2*>!C6!:*)1%!'%!6-*!9+4%'%)!0-*%!-*!*.5+46*;!
6-*!D91;19E!84+9!6-*!-+\$.*!154+..!6-*!.64**6!1.!814!1.!6-*!.64**6514!2'%*7!1==14*%62#!6+!
-*1;!'%.' ;*!6-*!5'6#!)16*!F6-+\$)-!6*5-%'5122#7!6-16!01.!.6'22!0'6-'%!6-*!)16*.G>!H86*4!6-167!
-+='%)!8+4!9+4*!814*.7!-*!2+'6*4*;!14+\$%;!6-*!.64**6514!.6+=7!51.6'%)!129+.6!=2*1;'%)!
)21%5*.!16!*15-!=1..*%)*4!.6*=='%)!+88>!?'%122#7!1!91%!'%!!*.6*4%!;4*J 2'/*2#!1!
6*15-*4J 1./*;!8+4!1!4';*!6+! 123445)34"6%.227"8 9:;<
=7!1%;!K'9!)21;2#!6++/!-'9!
6-*4*>!

"*!*14%*;!6-'46#!L*+%!+%!6-*!8'4.6!64'=!1%;!8'86#!L*+%!+%!6-*!.*5+%,1%!1\$.='5'+\$.!.\$9! 8+4!.+!*142#!'%!6-*!;1#>!C%!64\$6-7!2\$5/!01.!0'6-!-'9>!?+4!%*142#!6*%!;1#.7!-*!-1;!-14;2#!21';! *#*.!+%!1%#!9+%*#>!M+!0-*%!5+'%J 6*%L*+%!%'5/*2.7!+4!.+9*6'9*.!1!8'3* (L*+%5+'%J 8*22! 52'%/'%)!'%6+!-'.!=1297!-'.!*#*.!%*142#!:4'99*;!0'6-!6*14.>!@3*%!:*66*47!6-*!*')-6#!L*+%! 6+612!-*!%+0!-*2;!01.!'%312\$1:2*>!I'6-!6-16!19+\$%67!-*!5+\$2;!.++6-*!-'.!=145-*;!6-4+16! 0'6-!1!)21..!+8!5-*1=!4'5*!0'%*!'8!-*!2'/*;7!:\$6!9+4*!'9=+461%62#7!-* !5+\$2;!:\$#!1!:+02!+8! >?277?234@)3**#**+**K**!+%*!.+\$=G!8+4!-'.!1'2'%)!0'8* \Rightarrow

"".!0'8*!-1;!:**%!5+\$)-'%)!8+4!9+4*!6-1%!1!9+%6->!M'%5*!6-*#!0*4*!+86*%!8+45*;!6+!./'=!
3%!9*12.!+8!9'22*6!)4\$*27!6-*4*!01.!5*461'%2#!%+!5-1%5*!+8!188+4;'%)!9*;'5'%*>!
,*5-%'5122#7!'8!-*!-1;!4*122#!64'*;7!-*!5+\$2;!-13*!91%1)*;!6+!:\$#!1!;+.*!+4!60+7!:\$6!-*!
8'492#!:*2'*3*;!6-16!+%5*!#+\$!.*%;!9*;'5'%*!6+!;4'3*!+\$6!1%!'22%*..7!6-16!'22%*..!L\$.6!)*6.!
1!61.6*!8+4!'6!1%;!/**=.!5+9'%)!:15/>!?+22+0'%)!6-'.!=*4.+%12!54**;7!-*!-1;!%*3*4!61/*%!
-*4!6+!1!;+56+47!.+!-*!-1;!%+!';*1!0-16!-*4!;'.*1.*!9')-6!:*>!O\$6!L\$;)'%)!84 +9!-+0!.-*!
%+0!21#!8216!+%!-*4!:15/7!\$%1:2*!*3*%!6+!6\$4%!+%6+!-*4!.';*7!'6!01.!52*142#!.*4'+\$.>!,-*!
'22%*..!-1;!0+4.*%*;!1:+\$6!6*%!;1#.!*142'*47!186*4!.-*!16*!.+9*!=++42#!5++/*;!9'22*6!1%;!
:*519*!:1;2#!5+%.6'=16*;>!P%!6-16!+551.'+%7!K'9!-1;!8'%122#!)+66*%+2;!+8!.+9*!
9+%*#7!:+\$)-6!1!.9122!.15/!+8!9'22*67!=2\$.!1!:\$%;2*!+8!5-*1=!8'4*0++;>!H55+4;'%)!6+!
-'97!D6-16!)++; (8+4%+6-'%)!0+91%7!122!841%6'57!:+'2*;!'6!'%!1!=+6>E!,-*!8'4*!01.!0*1/7!.-*!
01.!'%!1!4\$.-7!1%;!6-*!9'22*6!;';%Q6!=4+=*42#!5++/>!R*6!D6-16!;19%!0+91%E!./'==*;!6-*!
.=++%!126+)*6-*4!1%;!)41::*;!-1%;8\$2.7!.6\$88'%)!6-*9!'%6+!-*4!9+\$6-!.+!B\$'5/2#!'6!01.!
1.!'8!.-*18*14*;!.+9*+%*!0+\$2;!.%165-!'6!101#>!M-*!.6\$88*;!-*4.*28!\$%6'2!2\$9=.!=+==*;!
+\$6!+%!:+6-!5-**/.!2'/*!8'.6.>!O#!6-16!.19*!*3*%'%)7!.-*!01.!)4 +1%'%)!6-16!-*4!5-*.6!-\$46!

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1%;!-*4!.6+915-!8*26!6')-67!4+22'%)!-*4!*#*.!1.!'8!.-*!0*4*!'%!1!8'6> !
P$641)*;7!K'9!-1;!.-+$6*;S
DT19%!#+$7!0+91%U!R+$!)*6!.'5/!84+9!%+6!*16'%)7!#+$!)*6!.'5/!84+9!*16'%)U!I-16!19!C!
.$==+.*:!6+!:+V!I-#!51%Q6!#+$!+=*%!#+$4!*#*.!=4+=*42#VE!
H%;!-*!.21==*;!6-*!5-**/!+8!6-*!0+91%!0-+!21#!6-*4*!)4+1%'%)>!,-+$)-!.-*!;';!+=*%!
-*4!*#*.!1!:'6!0';*47!6*14.!0*22*;!$=!'%!6-*9>!K'9Q.!+0%!*#*.!:$4%*;!-+6!1.!0*22>
H%;!#*67!*3*%!'%!-*4!5+%;'6'+%7!.-*!-1;%Q6!2+.6!-*4!1==*6'6*>!?+4!6-*!=1.6!6-4**!;1#.7!.-*!
-1;!:*))*;!-*4!-$.:1%;!8+4!.+9*!.*+22*+%)61%)!:4+6->
                                                         1
D,-'.!;19%*;!0+91%U!R+$!51%Q6!*3*%!.6+915-!9'22*6!)4$*27!1%;!#+$!01%6!.*+22*+%)61%)V!
H4*!#+$!)+'%)!6+!*16!'6!1%;!6-*%!-13*!1%+6-*4!8'6VE
"*!.5+2;*;!-*4!6-16!01#7!:$6!'%.';*7!'6!:+6-*4*;!-'9!6-16!-*!5+$2;%Q6!188+4;!6+!:$#!'6>
                                                                                     1
W+07!6-+$)-7!-*!8'%122#!5+$2;>!"*!5+$2;!12.+!:$#!=+44';)*!8+4!6-*'4!6-4** (#*14(+2;!.+%7!
A)?@@23740-+!01.!-$%)4#!1%;!54#'%)!:*.';*!-'.!.'5/!9+6-*4>!I'6-!*')-6#!L*+%!'%!-'.!
-1%;7!K'9!X- ! 9 (L'!8*26!0*22!+88!8+4!+%5*>
O$6!-'.!2$5/!;';!%+6!*%;!6-*4*>!H.!-*!0'=*;!6-*!.0*16!1%;!;4'<<2*!84+9!-'.!%*5/!0'6-!1!
)4'9#!41)!6-16!5+$2;!-14;2#!:*!5122*;!1!6+0*2!1%#9+4*7!-*!.6146*;!6+!2*13*!6-*!.5-++2!
)16*>!M$;;*%2#7!.+9*+%*!5122*;!+$6!84+9!:*-'%;7!DY'5/.-10UE!K'9!.6+==*;!1%;7!6$4%'\%7!
.10!1!.6$;*%6!84+9!6-16!.19*!.5-++2!-$44#'%)!6+014;!-'9>!,-*!.6$;*%6!:2$46*;$
D"+0!9$5-!6+!)*6!6+!W19;1*9$%!M616'+%VE!
"*!01.!=4+:1:2#!1!:+14;'%)!.6$;*%6!-*1;'%)!:15/!6+!-'.!-+9*6+0%!8+4!0'%6*4!:4*1/>!"*!
9$.6!-13*!=21%%*;!6+!2*13*!6-16!;1#7!:$6!6-*!41'%!01.!8122'%)7!-*!-1;!2$))1)*7!1%;!-*!
01.!16!1!2+..>!,-*%!-*!.=+66*;!K'97!4$.-*;!+$6!'%!-128 (0+4%!.-+*.7!.6'22!'%!-'.!6-4*1;:14*!
I*.6*4%!.$'67!2*66'%)!6-*!41'%!.+1/!-'9>!
DR+$!01%6!6+!)+!6+!W19;1*9$%!M616'+%!VE
K'9!-*.'616*;!8+4!1!9+9*%6>!T';!-*!;'.2'/*!64$;)'%)!.+!814!'%!6-*!41'%!0'6-!%+!41'%!)*14V!
P4!01.!-*!124*1;#!.16'.8'*;!0'6-!6-*!60+!814*.!-*!-1;!5+22*56*;!6-16!9+4%'%)V!W+7!%+6!16!
122>!C6!01.!9+4*!6-16!-*!8*26!1!81'%6!.*%.*!+8!;4*1;7!815*;!0'6-!.+!9$5-!)++; !8+46$%*!
5+9'%)!16!-'9!122!16!+%5*>!H2.+7!-'.!0'8*Q.!=2*1!*142'*4!6$))*;!16!-'.!5+%.5'*%5*>!I-*%!
6-*!21;#!%*N6!;++4!-1;!5+9*!6+!5122!8+4!-'9!6-16!9+4%'%)7!-'.!0'8* J -*4!815*!4*;$5*;!6+!
./'%!1%;!:+%*7!-*4!*#*.!6-*!+%*!4*91'%'%)!0*22!+8!3'612'6#7!214)*!1%;!;* *=2#!.$%/*%J -1;!
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2++/*;!\$=!16!-'9!0'6-!1!=2*1;'%)!2')-6!'%!6-*9>

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DT+%Q6!)+!+$6!6+;1#>!Z2*1.*7!.61#!0'6-!9*!16!-+9*>!CQ9!.+!6*44':2#!'22[E
M-*!-1;!9$49$4*;!'%!:14*2#!1!0-'.=*47!-*4!:4*16-'%)!41662'%)!'%!-*4!6-4+16>!T'.9'..'%)!'6!
2')-62#7!K'9!-1;!.1';S!
DT19%!'6!1227!0+91%7!612/'%)!%+%.*%.*>!C8!C!L$.6!.'6!14+$%;!-*4*7!0-+Q.!)+'%)!6+!8**;!$.VE
"*!2*1=*;!$=!6+!2*13*7!:$6!.-*!013*;!-*4!149.!8**:2#7!1.!'8!64#'%)!6+!-+2;!-'9!:15/>
DT+%Q6!)+7!6-*%[!5+9*!-+9*!*142#!'8!#+$!9$.6!)+>E!
M-*!-1;!5122*;!186*4!-'9!'%!1!5-+/'%)!3+'5*!1.!-*!0*%6!+$6> !
W+07!-*14'%)!6-*!.6$;*%6!1./!6+!)+!122!6-*!01#!6+!6-*!.616'+%7!K'9!.$;;*%2#!.10!1)1'%!'%!
-'.!9'%;Q.!*#*!-'.!0'8*Q.!64*9:2'%)!-1%;.7!-*4!214)*!*#*.!:4'99'%)!0'6-!6*14.>
DM+7!-+0!9$5-!6+!W19:1*9$%!M616'+%VE
6-*!.6$;*%6!1./*;!1)1'%7!.+$%;'%)!'9=16'*%6>!"*!)21%5*;!16!6-*!4'5/.-10!91%7!9$66*4'%)!
6+!-'9.*28$
DC!6-\%/\!6-\!641\%\!6+\!C\%5-\*+\%!2\*13\*.\!16\!*2\*3\*\%7\!6-\*\\!6\-\*4\Q.\!1\%+6-\*4\!14+\$\%;\!\\%++\%[E
DP%*!0+%!8'86#!L*+%7!=2*1.*>E
,-*!0+4;.!.2'==*;!+$6!+8!K'9Q.!9+$6-!:*8+4*!-*!*3*%!4*12'<*;!'6>!@3*%!-*!01.!.61462*;!16!
6-*!-*86#!.$9!-*!-1:|L$.6!%19*:>!C6!-1:!:**%!1!3*4#!2+%)!6'9*!.'%5*!-*!-1:!1./*:!8+4!
6-16!9$5-!16!+%5*>!H6!6-167!-'.!*N5'6*9*%6!+3*4!91/'%)!9+%*#!8214*:!$=7!:$4%'%)!101#!
1%#!5+%5*4%!-*!-1;!8+4!-'.!0'8*>!M$4*2#!.-*!0+$2;%Q6!)*6!0+4.*!6+;1#7!-*!6+2;!-'9.*28>!
W+!9166*4!0-16!-1==*%*;7!-*!5+$2;%Q6!)'3*!$=!1!5-1%5*!8+4!1!814*!6-16!01.!%+6!L$.6!
*B$12!6+!-'.!8'4.6!60+!64'=.!5+9:'%*;!:$6!*3*%!9+4*!6-1%!6-16> !
DP%*!0+%!8'86#[!6-16Q.!1!:'6!9$5-\E
,-*!.6$;*%6!6'26*;!-'.!-*1;!;+$:68$22#> !
DW+6!16!122>!O#!;'.61%5*7!'6Q.!0*22!+3*4!8+46#!4'!84+9!-*4*>!H%;!+%!1!;1#!2'/*!6-'.7!#+$Q3*!)+6!
6+!=1#!1!:'6!*N641≯E
K'9!.9'2*;!:4+1;2#>!"*!5+$2;%Q6!-';*!6-*!L+#!41;'16'%)!84+9!-'.!
                                                                                                                                    815*▶
DH22!4')-6>!CQ22!=1#!0-16*3*4!#+$\\(\mathbf{D}\)1\(\mathbf{L}\)5\(\mathbf{G}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(\mathbf{E}\)1\(
,-*!)*%*4+$.!#+$%)!5$.6+9*4!2*86!6+!)16-*4!-'.!5+16!1%;!2$))1)*>
\*13'%)!0'6-!6-*!.6$;*%6!+%!:+14;7!K'9!X- ! 9 (L'!8*26!1.!6-+$)-!-'.!8**6!0*4*!1.!2')-6!1.! !
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