



!''#\$\$%&'()\*#+''\$, ) - \*\$. / )01\$230\$%45'034 6 #4+)&\$7) / \$)41\$8'9&3 6 ):;\$

!''!#\$%&&' ( ) \* '+ ) , - + % . - ) + /'

!''# \$ % & & % ' ( ) \* + , - . % ( + / ) 0 ' ( - , 12 ) 0 , 345)67)898:2):/99);<\$ < ) = ! > \$ ! / \$ 61, 0 1/T2-2.38Td ( [ (3(

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69()\$. . (9!())!4&5D!+,-.&/\$\*#0&1/!23#((,!())!4&5!&#!6&3\$!7 '-8\$9.-\*:!

**J3'K)J,?3%4%,)Q, \$+3%\$ 0 #'?+)**

%-9\$3\*(9!())!#5!4&5!%-8-.-('D!7 '-\*\$<!M&\*-( ' .!+'8-9(' ; \$'!\*169(E9& ; ; \$!

@<=>)L&,#,)QT3U&%)

P(9 ; \$9!69\$.-<\$'\*)!]]\*#!7 '-\*\$<!M&\*-( ' .!Y\$'9&!A..\$ ; /,:!

**J3'K)N%45'. ,&)A<)C' #%(&' ( )**

69\$.-<\$'\*)!I'\*\$9'&\*-('&.!W(1'3-,!())!+'8-9(' ; \$'\*&!4&5!

**"-' .!<-7#&-.&'!**

>?>Q! **A \$ #, &&, - '3)C+( ,)E++)^2-'E&B(9\$V!**

**Q3%&?%( ,) 0 ,3%,)FV+3-+)^7 2AV!**

I'!9\$3(E'-'-( '!)!#9!&,'< ; &9H!&3#-\$8\$ ; \$'\*.!\*(!B9(\*\$3!/-(<-8\$9.-\*!-'!\*\$#!#-E#!.\$&.!  
\*#9(1E#!#9!7 '-\*\$<!M&\*-( ' .!AE9\$\$ ; \$'\*( '!) [-(<-8\$9.-\*! [ \$ : ( ' <!M&\*-( ' & ,!=19-.<-3\*( '!  
^ [ [ M=V!

>?>\_! **A \$ #, &&, - '3) 0 ,3V,)E+5?' )^P-' ,&' <V!A \$ #, &&, - '3)**

**0 ,3%+)B,4' #&&' ( )^2 5 \$<\$'V!**

I'!9\$3(E'-'-( '!)!#9!B-8(\*&,!9(,\$.!&<8&'3-'E!\$'8-9(' ; \$'\*&,!&5!&'<!B(-,3:!(B9(\*\$3\*!  
\*#9!\$'8-9(' ; \$'!\*-'!\*- ; \$.!())!&9 ; \$<13('),-3\*!

>?>>! **J3'K+&&'3)J, ''.' )-+)M+&&,)A ('' (+&)^ [ 9&F-,V!**

I'!9\$3(E'-'-( '!)!#9!\$,\$..!&<8(3&3:!(.1BB(9\*!#9!<\$8\$, (B ; \$'!\*&'<!' ; B,\$ ; \$'\*&\*( '!)!  
,&5 .!B9(\*\$3\*-'E!\*\$9!\$'8-9(' ; \$'!\*-'! [ 9&F-,!

>?>^! **W, (+&&,)N, I, ?+)^7E&' <&V!**

I'!9\$3(E'-'-( '!)!#9!5 (9H!&.!&13-\*F\$'!<-B, ( ; &\*/9-'E-'E!\*\$9!8(-3\$!())#9!E\$'9&\*-( '!(!  
E, (/&,\$'8-9(' ; \$'\*&,!3& ; B&-E' .!&'<!' .B-9-'E!3,- ; &\*\$!&3\*-8- ; !-'!7E&'<&!&'<!/\$ : ( ' <!

**J3'K+&&'3)X, (GY)^W#-'&V!**

P(9!#-.!3('9-/1\*-( ' .!\*(!#9!)(9 ; 1,&\*-( '!)!\$'8-9(' ; \$'\*&,!&5 .!-'!W#-'&D!5#-3#!#(, <!8-\*& ,!  
- ; B(9\*&'3\$!\*(!#9!&<8&'3\$ ; \$'\*(!)!E, (/&,\$'8-9(' ; \$'\*&,!&5!

>?>?! **Z( )\$ + \$ '3%, \$)?')= ([%3' ( \$+(?,.) \*+k+ (-+3&)^Y, (/&., :V!**

I'!9\$3(E'-'-( '!)!#9!(. \$!5#(!, (. \*!#9!,-8\$.!<\$)\$'<-'E!\*\$9!&'<!&'<!#9!\$'8-9(' ; \$'\*)9( ; !  
<\$ .913\*-8\$!-'<1 .9-\$ .!

>?`a! **! ?+ ; 5+( )L<) 0 4L, KK3+1)^7 2AV!**

A.!2B\$3-&.!S&BB(9\*\$19!())\*#9!7M!W('8\$'\*(-('!'I'\*\$9'&\*(-('&,! \ &\*\$9!W(19.\$!&'<!)9!  
.1 .\*&'<,\$&<\$9.#-B!/1-,<-'E!-'\*\$9'&\*(-('&,!\$'8-9(' ; \$'\*&,!&5!

>?`]! **C+% (5,3-)B' &+K)Q3, ; ; )^Y\$9 ; &' :V!**

P(9!\$G3\$B\*-( '&!&'<!.1.\*&-'\$<!3( ; ; -\* ; \$ '\*!\*(!&<8&'3-'E! ; 1,\*-,&\*\$9&!B(-,3:!\*(!)19\*#\$9!  
.1.\*&-'&/,\$!<\$8\$, (B ; \$ '\*!&'<!'8-9(' ; \$ '\*&!8&,1\$.!E, (/&,,:!

>?`b! **L53%&?%, (,)H%G''+3+&)^W(. \*!S-3&V!**  
I'!9\$3(E'-'-( '!(!)#\$9!9\$ ; &9H&/,\$!<-B, ( ; &\*-3!&3#-\$8\$ ; \$ '\*.!&.!#&\$!&93#-\$3\*(!)!#&\$!6&9-!  
AE9\$\$ ; \$ '\*!

>?`@! **A(?'(%')@+3\$ , (M+(V, \$%( )^ [9&F-,V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3( '\*9-/1\*-( ' !\*(!+'8-9(' ; \$ '\*&!4&5!

>??a! E,"3+(4+)M'%&&' (-+)L5,0''3(+&)^25-\*F\$9,&'<V!  
P(9!(1\*.\*&'<- 'E!&'<! .1.\*&- '\$<!3( '9-/1\*(-( ' .!\*(!+'8-9(' ; \$ '\*&!4&5!

@%,3%)F<)\* , [%-+2)B3)^6#,-,BB- '\$.V!  
P(9!#-!\$G3\$B\*-( ' &!,,\$&<\$9.#-B!-/1,-<'E!3( ' .\$ .1.!) (9!\*\$!&<(B\*-( '!)!\*\$!7 '-\*\$<!M&\*( ' .!%\$3,&9&\*-( '!)!\*\$!S-E#\* .!()I'<-E\$' (1.!6\$(B,\$./ :!\*\$!7 '-\*\$<!M&\*( ' .!Y\$ '\$9&!,  
A..\$ ; /, :!

>??]! H3, (]'%&+)M''35+((+SF''%.\$%())^[\$,E-1 ; V!  
P(9!(1\*.\*&'<- 'E!&'<! .1.\*&- '\$<!3( '9-/1\*(-( ' .!\*(!+'8-9(' ; \$ '\*&!4&5!

\*, [%-)H3++&?' (+)^7 '-\*\$<!c- 'E<( ; V!  
P(9!(1\*.\*&'<- 'E!&'<! .1.\*&- '\$<!3( '9-/1\*(-( ' .!\*(!+'8-9(' ; \$ '\*&!4&5!

0 '5, \$+-)A<)! ,5(''')^A,E\$9-&V!  
P(9!#-.!9(\$,- ' !\*\$!' \$E(\*-&\*( '!)!&E9\$; \$ '\*!.!3913-&,\*(!.1.\*&- '&/,\$!<\$8\$, (B ; \$ '\*!

>??b! \*(,5)!5+?' ()^72AV!  
P(9!(1\*.\*&'<- 'E!&'<! .1.\*&- '\$<!3( '9-/1\*(-( ' .!\*(!+'8-9(' ; \$ '\*&!4&5!

>5' \$,&)A<0 +(&,5)^Y#&'&V!  
P(9!(1\*.\*&'<- 'E!&'<! .1.\*&- '\$<!3( '9-/1\*(-( ' .!\*(!+'8-9(' ; \$ '\*&!4&5!

Q.,''&)>U;k+3)^Y\$9 ; &' :V!  
P(9!\$G3\$,, \$'3\$!-'!,\$&<- 'E!7M+6!&'<!&<8&'3-'E!E,( /&!,\$'8-9(' ; \$ '\*&!,.\*\$5&9<.#-B!

>??@!B, \$+&)0 ,4N+%.))^W&'&<&V!!  
P(9!)&3,-,\*&'-'E!fd19!W( ; ; ( ' !P1\*19\$g!,&&<- 'E!#\$!7 '-\*\$<!M&\*( ' .!(3( '8\$'\$!\*\$!`ee!  
+&9\*#!21 ; ; -!

J5%.% ; ;+)!, (-&)^7 '-\*\$<!c- 'E<( ; V!  
P(9!(1\*.\*&'<- 'E!&'<! .1.\*&- '\$<!3( '9-/1\*(-( ' .!\*(!+'8-9(' ; \$ '\*&!4&5!

>??Q! 0 '5, \$+-)=.SA&531)^+E:B\*V!  
I'!9\$3(E'-\*( '!)!#-.!\$G\*9&(9<- '&9:!. \$98-3\$!\*(!\*\$!Y,( /&!,\$'8-9(' ; \$ '\*!P1'<!

C, \$^(\*)\_V+-,) 0 +&?3+)^L \$G-3(V!  
P(9!(1\*.\*&'<- 'E!&'<! .1.\*&- '\$<!3( '9-/1\*(-( ' .!\*(!+'8-9(' ; \$ '\*&!4&5!

>??\_!J+?+3)@<)! , (-)^Y\$9 ; &' :V!  
P(9!(1\*.\*&'<- 'E!&'<! .1.\*&- '\$<!3( '9-/1\*(-( ' .!\*(!+'8-9(' ; \$ '\*&!4&5!

>??>!A&I,3)AI, +[^c :9E:F.\*&'V!!  
P(9!-' -\*&-'E!&'<- ' .B-9-'E!#\$!7 '-\*\$<!M&\*( ' .!h\$&9!())\*\$!L (1 '\*&- ' .!

**0'5, \$+-)A.%)0+I''' ,3)^L (9(33(V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(' ;\$' \*&,!4&5!

>??`!M,G5+3)A&, -%)^I9&'V!  
P(9!<-.\*-'E1-.#\$<!&33( ;B,-.# ;\$'\*.!-'!.\$319-'E!<\$8\$, (B-'E!'&\*( ' .N!.1BB(9\*)(9!7M+6!  
\*#S!c : (\*(!69(\*3(,!&'<!\*#\$!\$. \*&/,-.# ;\$'\*(!)\*#\$!7'-\$<!M&\*( ' .!P(9\$. \*!P(91 ;!

**E''-R%G)Q3` \$+3)^Y\$9 ; &' :V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(' ;\$' \*&,!4&5!

>???!W+%)Q'+&?+3)^%\$' ; &9HV!  
P(9!\$G\*9&(9<-'&9: !3('9-/1\*-'!\*(!'\$E(\*-&\*( ' !)\*#\$!W('8\$'\*( ' !('![-(, (E-3&,!%-8\$9.-\* :!  
&'<!(#9! ; 1,\*-,&\$9&,!\$'8-9(' ;\$' \*&,!&E9\$\$ ;\$' \*!.

**AI%' )0'3%&5%\$ ,)^=&B&'V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(' ;\$' \*&,!4&5!

>'%. '\$ ,)N+3' (%)!., -+)^2& ; (&V!  
P(9!-' .B-9\$<!, \$&<\$9.#-B!()\*#\$!7'-\$<!M&\*( ' .!I' -\*-&\*8\$!)(9!2 ; &, !I., &'<!%\$8\$, (B-'E!  
2\*&\$\$.!

`eee! **B'5, ()F+33%?)E, \$ \$+3&)^M\$\*#9,&'<.V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(' ;\$' \*&,!4&5!

**M')B'5()QV+..+()^25\$<\$'V!**  
P(9!<-.\*-'E1-.#\$<!. \$98-3\$!, \$&<-'E!'\$E(\*-&\*( ' !)\*#\$!W('8\$'\*( ' !('!%\$. \$9\$-)-3&\*( ' !

>, ()!3%)C,0, %)Z&\$ ,%)^L&, &: .-&V!  
P(9!#-!-' -\*-&\*8\$!-'!\*\$!2B\$3-&,!2\$..-'!()\*#\$!7'-\$<!M&\*( ' .!W( ; ; -.-('!('!  
21.\*&-'&/, \$!%\$8\$, (B ; \$' \*!5-\*#!B(. -\*8\$!B&9\*-3-B&\*( ' !/ :!3-8-, !. (3-\$\* :!

`eea! **J, 3[+0)@, &&, ()^6&H-. \*&'V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(' ;\$' \*&,!4&5!

`ee]! **Fa(?5+3)@, (-.)^A1.\*9-&V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(' ;\$' \*&,!4&5!

`eeb! **>' \$ \$1)>5' (GSM++)Q'5)^2-'E&B(9\$V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(' ;\$' \*&,!4&5!

`ee@! **J, ?3%4I)!0b..) ^W&'&&&V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(' ;\$' \*&,!4&5!

`eeQ! **=-?!5)M3'R (\$X+%&&)^72AV!**

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`ee\_! X%(K3%+-)E,(G)^A1.\*9-&V!

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`ee>! N%45'.,&A<)C'#%(&' )^72AV!

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`ee`! @'#+3?)M'4I+()^[ \$,E-1 ; V!

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`ee?! A(-3'(%4')\_-'G')A-+-+)^c\$':&V!

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`eae! c-+(+I)0,-,3)^WFS3#(..(8&H-&V!

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`eaa! L13%..+)-+)Q.+ \$ \$)^P9&'3\$V!

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`ea]! C+% (5,3-)F,(?+())^Y\$9; &' :V!

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`eab! 0%45,+.)M'?5+)^Y\$9; &' :V!

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`ea@! J, ".')AKK' (&')E+ \$+) 0 ,45, - ')^ [9&F-,V!

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`eaQ! L5,3.+&)\_ I%-)^c\$':&V!

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`ea\_! @+3%#+3?)C,"&45)^25-\*F\$9,&'<V!

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`ea>! E''%&\$J, ".)!''+&)^ [ \$,E-1 ; V!

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`ea`! 0 ,?+'B<)0 ,G,3% ('&)-+)0 +..')^791E1&:V!

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`ea?! C''&&+..>3,% )^72AV!

P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<13('9-/1\*-'!\*(!+'8-9(';\$'\*&,!4&5!

`e]e! **A.+P, (-3+SL5,3.+&)Q%&&)^01'E&9:V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(';\$'\*&!4&5!

**\_.+G)!?+;,( '[%?45]Q'.#,&' [)^722SV!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(';\$'\*&!4&5!

`e]a! **F''%..+3\$')L,(')^A9E\$'- '&V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(';\$'\*&!4&5!

**=4I5,3-)C+5#%(-+3)^Y\$9; &' :V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(';\$'\*&!4&5!

`e]]! **B'&+;5)E<!,P)^72AV!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(';\$'\*&!4&5!

**@+(3%)! \$+?&)^ [ \$,E-1 ; V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(';\$'\*&!4&5!

`e]b! **B,4d''+&)@'+KK.+3)^ [ \$,E-1 ; V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(';\$'\*&!4&5!

**0 %45+.)J3%+'3)^P9&' 3\$V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(';\$'\*&!4&5!

`e]@! **X'.kG, (G)M''35+(+)^Y\$9; &' :V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(';\$'\*&!4&5!

**X,4.,R)M30+0%(&I%)^6(, &' <V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(';\$'\*&!4&5!

**0 %45+.)\*+&; ,P)^P9&' 3\$V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(';\$'\*&!4&5!

`e]Q! **0 %45+.)L,3;+(?%+3)^P9&' 3\$V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(';\$'\*&!4&5!

**B+, (SJ, ''.)@,33'1)^ [ \$,E-1 ; V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(';\$'\*&!4&5!

**B+, (E, \$,3d''+)^P9&' 3\$V!**  
P(9!(1\*.\*&'<-'E!&'<!.1.\*&-'\$<!3('9-/1\*-'!\*(!+'8-9(';\$'\*&!4&5!