

"#\$%&'()!(*!(+,!-'#(,.!/(&(,)!&%,!012',%&32,!(*!4&'5!.#66,%,'(!,782*#(&(#0,!.5'&4#9):&'.!'*(!;1)(!&(!"&%(+&<)!=#',5&%.>!

?.(.\%!/@.\%\5!!

AB!C9(!DADDE!FFGHI!&4!!

J2*%#.&!K*0,%'*%!L*'!M,/&'(#)<)!&((,'(#*'N\$,((#'\$!)(1'(O625#'\$!6#6(5!=,',P1,2&'!4#\$%&'()!6%*4!/&'!Q'(*'#*!(*!"&%(+&<)!=#',5&%.O+&)!3,,'!R#.,25!&'.!;1)(#6#&325!9*'.,4',...)!S1(E!&)!6%,T1,'(25!*991%)!#'!)19+!9*'(%*0,%)#,)E!4*)(!*6!(+*),!.*#'\$!(+,!9*'.,4'#'\$!+&0,!2*)(!&22!8,%)8,9(#0,.)!

 $Y_{+}, !8*\#'(!\#)!'*(!\&!8\&\%(\#)\&'!*',>!U2,\&\%25E!'*!*',O*'!,\#(+,\%!)\#.,!*6!(+,!\&\#)2,O@'*R)!T1\#(,!R+\&(!(*!.*!R\#(+E!*\%!6*\%E!(+,!+1'.\%,.)!*6!(+*1)&'.)!*6!4\#\%\&'()!'*R!)(\%,\&4\#'\$!\&9\%*))!*1\%!)*1(+,\%'!3*\%.,\%)! $$ $$ X1)(!\&)!92,&\%25E!\#(!\#)!(\#4,!(*!)(*8!&'.!,7&4\#',!*1\%!\&))148(#*')!&3*1(!(+,!\$*&2)!&'.!4*(\#0,)!*6! $$ (+*),!),,@#'\$!(*!,'(,\%!*1\%!9*1'(\%5)!Q'.!\#(!\#)!9,\%(\&\#'25!(\#4,!(*!)(*8!9&8\#(\&2\#P\#'\$!*'!(+,!9+&22,'\$,)! $$),.!35!(+,!\%,9*\%.!'143,\%)!*6!4$$ $$ 4*$\%&'()!(*!(&@,!8*()+*()!&(!(+*),!&4*'$!*1\%!6,22*R!9#(\pm,')! $$ $$ R+*4!R,!+&0,!2,&\%',.!4*)(!,'(+1)\pm,0)$$$

 $Y^{*!3},\$^{\#}'E!^{\#}(!^{\#})!9\%^{\#}(\#9\&2!(*!\&9@'*R2,.\$,!R+\&(!R,!.*!!'''\#!@'*R!\&3*1(!(+,),!4\#\%\&'())!W'!\%,)8*'),!(*!.\%&4\&(\#9!\&'.!9*'(\%*O,\%)\#\&2!9+\&'\$,)!\#'!(+,!\#482,4,'(&(\#*'!*6!*1\%!\#44\#\%\&(\#*'!2\&R)E!4*\%,!\&'.!4\%,!\partial*!', ``#0\partial*.1&2)!\partial*\part$

C30#*1)25E!# 4 4#\$%&(#*'!*66#9#&2)!6&9,!.&1'(#'\$!.#66#912(#,)!.,(,% 4#'#'\$!R+*!& 4*'\$!(+,),!
(+*1)&'.)!+&0,!2,\$#(#4&(,!92)!(*!%,61\$,,!)(&(1))! [,(!9*'6*1'.#'\$!(+,!9+&22,'\$,!#)!(+,!
45(+*2*\$5!(+&(!+&)!9*4,!(*!,'0,2*8!*1%!#4 4#\$%&'(!+#)(*%5)!J*%!(+#)E!2**@!'*!61%(+,%!(+&'!(+,!)))*'',(&(1,!*6!V#3,%(5E!&'.!(+,!R*%.)!*6!\4 4&!V&P&%1)<)!*'',(!#')9%#3,.!*'!#()!3&),>!M,)#\$'&(#'\$!
V&.5!V#3,%(5!(+,!] "*(+,%!*6!\7#2,)E^!V&P&%1)!)*1\$+(!(*!4,4*%#&2#P,!(+,!82#\$+(!*6!+,%!X,R#)+!
3%*(+,%)!&'.!)#)(,%)!)166,%#'\$!Y)&%#)(!8,%),91(#*'!#'!\&)(,%'!\1%*8,>!W'!)*!.*#'\$E!)+,!+,28,.!
%,0#0,!(+,!J*1'.,%)<!0#,R!*6!Q4,%#9&!&)!&!%,61\$,!6%*4!\1%*8,&'!*88%,))#*'>!S1(!)+,!&2)*!
4&'&\$,.!(*!#48%#'(!*'!(+,!4#22#*')!*6!4#\$%&'()!R+*!8&)),.!1'.,%!V#3,%(5<)!(*%9+!(+,!#4&\$,!'*(!

(+,!-'#(,.!/(&(,)!+&)!#'0&%#&325!3,,'!8,*82,.!35!4#%&'()!,&\$,%!(*!),((2,!.*R'!+,%,!8,%4&','(25)!

 $(+,!U+\&\%2,)!/(,R\&\%(!"*((!J*1'.\&(\#*'E!\&'.!(+,!"\&9Q\%(+1\%!J*1'.\&(\#*'>!Y+,!*\%\&."\#P\&(\#*'<)!6,..,\%\&2!) \\ J*\%4!eeA!^(*!),91\%,!(\&7!,7,48(!)(\&(1)a!)(\&(,)!(+&(!\#()!4\#))\#*'!\#)!](*!3\\#'\$!\&3*1(!\&!4*\\,!\#'921)\#O,E! \\ ,T1\#(\&32,!\&'.!)1)(\&\#'\&32,!R\&5!*6!2\#6,!6*\\!V\&(\#'*!\#44$\\%\\&'(!9*441'\#(#,)!2\\#O\\#'\$!\\#''!(+,!-'\#(,.!))/(&(,)!\&'.!\&9*))!(+,!Q4,\\\#9\&)>!S5!R*\\@\\"\$!(\\&')'&(\\\&')'&(\\\&'',\\&'',\\\&'',\\\&'',$

U2, &%25E!&'!&43#(#*1)E!#6!'*(!\$%&'.#*),E!),(!*6!*3;,9(#0,))! [,(!&!V&(#'*!9*22,&\$1,!*6!4#',E!&!2#6,N 2*'\$!%,)#.,'(!*6!U+#9&\$*!&'.!+#\$+25!0#)#32,!9*441'#(5!2,&.,%!R+*!@'*R)!R+,%,!&22!(+,!3*.#,)! &%,!31%#..!`&'.!+,28..!31%5!)*4,!*6!(+,4aE!+&)!',0,%!+,&%.!*6!O2#&'P&f!

$$\begin{split} \mathbb{W}'!\$,9, & (!!.\&5) & \mathbb{E}!^* ', !\$,\&.)! (+\&(!\&(!2,\&)(!)^* 4,!^*6!(+,!4\#\%\&'()!)+\#88,.!^*66!35!)+\&4,2,)) & \mathbb{E}!\$\&' . \mathbb{N} \\ & (\&'.\#'\$!8^*2\#(\#9\#\&')!(^*!82\&9,)!2\#@,!U+\#9\&\$^*E!Z,R![^*\%@E!\&'.!,0,'!"\&\%(+&<)!=\#',5\&\%.!\&\%,!'^*(!,'\#\%,25!.\#)82,\&),.!R\#(+!R+\&(!+\&)!+\&88,',.!(^*!(+,4!)^*!6\&\%!\#'!Q4,\%\#9\&^!/^*!(+,!T1,)(\#^*'!\&\%\#),) & \mathbb{E}!\\ & (\mathbb{E}^*, \mathbb{E}^*, \mathbb{E}^*,$$