





)\*\$%+, - '\$.+\*!  
, -. %/\$O!4+\* <K0/%! .+2!9 .-K2<!) \*+!/&2\$+!<K+ .L\$-\$/>C! - \* 5 !4+\* <K0/\$\* ' !0\*%/C!92+% ./-\$-\$/>C! . ' < !- \* ' ( !  
-\$)2!HV . AA2+!2/! . -!C!DE "DIM! 1 -/&\*K (&!4- . %/\$O%I!9 . -K .L-2!)2 . /K+2%!A . @2!2J024/\$\* ' . -!A . /2+\$ . -%C!/&2+2!  
. +2! (+\* 5 \$ ' (! (-\*L . -!0\* ' 02+ ' %! \*92+!\$/%! \$ ' 9 . %\$92!<\$%42+% . -!\$ ' / \* ! / 2 + 2 % / + \$ . - ! . ' < ! . SK . / \$ O ! 2 ' 9 \$ + \* ' A 2 ' / % M !  
1 ' ' K . - ! ( - \* L . - ! 4 . % / \$ O ! 4 + \* < K 0 / \$ \* ' ! 2 J 0 2 2 < 2 < ! N D E ! A \$ - \$ \* ' ! / \* ' % ! \$ ' ! D E " X Y ! . ! - . + ( 2 ! 4 \* + / \$ \* ' ! \* ) / & \$ % !  
\$ ' O + 2 . % \$ ' ( ! 4 + \* < K 0 / \$ \* ' ! % 2 + 9 2 ! \* ' - > ! 2 4 & 2 A 2 + . - ! 4 K + 4 \* % 2 C ! . ) / 2 + ! 5 & \$ O & ! \$ / ! \$ % ! S K \$ O @ - > ! < \$ % O . + < 2 < M ! 1 !  
% A . - - ! 4 \* + / \$ \* ' ! \* ) ! 4 . % / \$ O ! \$ % ! + 2 0 > 0 - 2 < ! \* + ! \$ ' O \$ ' 2 + . / 2 < C ! L K / ! / & 2 ! A . G \* + \$ / > ! ) \$ ' < % ! \$ / % ! 5 . > ! / \* ! - . ' < > ) \$ - - % ! \* + ! \$ % !  
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H Z 2 L + 2 / \* ' ! 2 / ! . - ! C ! D E " [ I H P . + ' 2 % ! 2 / ! . - ! C ! D E " E I M ! \ & \$ - 2 ! 4 - . % / \$ O % ! \$ ' ! ( 2 ' 2 + . - ! 4 \* % 2 ! + \$ % @ % C ! \$ / J % ! - 2 % % ! \$ ' 9 \$ % \$ L - 2 !  
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! "#\$%&'>G3&20"4"&3'8+6'4I\$23""2'<&-"\$ :\*)^4I/ : -' <\*4"- : -'B\*4", &%- 'H\*4"- : -'I\*4", &%/ '! \*4I/ : -'J\*4%/# : &20-'K\*5&--&0'  
;L-110 : /&M&%6'&0' /- \* > ? (NA'

3 \$0+\*4- . %/\$0%!) +\* A!/2++2%/+\$ . -!%\*K+02%!0\* ' /+\$LK/2!/!\*!dEO!\*!)A. +\$ '2!-\$//2+!/&+\*K(&!\$A4+\*42+!  
<\$%4\*% . -!\*)!4- . %/\$0%C!-2. 0&./2%!) +\* A!- . ' <)\$--%C! . ' <!) +\* A! \ \ ? , !H7\*-2!2!/! . -!C!DE""Y! ? &\* A4%\*' !2/!  
.-!C!DEEbII! 3 \$0+\*4- . %/\$0%!. +2!4+2%2' /!\* ' !L2. 0&2%C!%K+). 02!5 . /2+%C!/&+\*K(&\*K!/!&2!5 . /2+!0\*-KA 'C!  
' <!292'!) \*K' <!' !/&2!+2A\*/2!5 . /2+%!\*!)/&2!L\*/&!/!&2!1+0/\$0! . ' <!1' / . +0/\$0!HP . + '2%!2/! . -!C!DE"EI!  
?&2!(+2./!4. 0\$)\$0!( . +L. (2!4./0&C!/!&2! . 00KAK- ./ \$\* ' !\*)!4- . %/\$0!-\$//2+!\$ ' !/&2!T\*+/&! , . 0\$)\$0!( >+2C!\$%!

**/ \*0.%+\* 1 2\*\$&3(4 &% 1 #!**

?&2!' 2(./ \$92!2))20/%!4-./ \$0%!&. 92!\* ' !/&2!4&>%\$0.-c!0&2A\$0.-c!. '<!L\$\*-\*( \$0.-!2' 9\$+\*' A2' /!  
\$%!0.K%2!)\*+!(-\*L.-!0\*' 02+' M! a+(. '\$%A%!/&./! .+2!2J4\*%2<!/\*!4-./ \$0%! ). 02!4&>%\$0.-!&. +A%!%K0&!.%!  
2'/. ' (-2A2' /!. '<!\$' (2%/ \$\* 'M!Z.+(2!4-./ \$0!<2L+\$%C!@' \* 5 '!. %!A. 0+\*4-./ \$0%C!.+2!/&2!0\*' 02+'!) \*+!  
2'/. ' (-2A2' /!. '<!+2%K-/\$' (!\$' !\$' GK+>!. '<!<2./ &M!P20.K%2!\*!)/&2!<\$%4\*% .-!\*)!\$' <K%/+\$.-!)\$%&\$' (!' 2/%C!  
2'/. ' (-2A2' /!\$%!A\*+2!0\*AA\*'->!%22' !\$' !\*02. ' %!. A\* ' (!-.+(2!.' \$A.-%! 5 &2+2!\$/!0. '!+2%K-!  
<+\* 5 '\$' (C!%K)\*0./ \$\* 'C!\*+!%/ .+9./ \$\* 'M! ?&2!4+2%2' 02!\*!)A. 0+\*4-./ \$0%!\$' !/&2!A.+ \$' 2!2' 9\$+\*' A2' /!  
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5 ./2+L\* <\$2%!5\$&!&\$(&!3 ,!0\*' /.A\$' ./ \$\*'!- \$@2-\$&\* \* <M!!  
! \ 2!<2)\$' 2<!K+L. '\$; ./ \$\*'!%! /&2!5 ./2+%&2<!42+02' /!K+L. '!. ' <!K%2C!5 ./2+%&2<!4\*4K- ./ \$\*'!  
<2' %\$/>C!. ' <!5 ./2+%&2<!42+02' /!\$A42+9\$\*K% !%K+).02!

?&2! \ \ ? , !4\*+/\$\* '!\*)!+\$%@!).0/\*+%!5 .%!'0-K<2<!L>!0+2./\$' (!"CBEE!)\*\*!/LK))2+%!.+\*K'<! 292+>! \ \ ? , !HF '9\$+\* 'A2'/.-!, +\*/20/\$\* '!1 (2'0>C!DEDEI! . '<!+K' '\$' (!/&2!\$' /2+%20/\$\* '!/\*\*-!5\$/&! /&2!&>+\*-\* (>!\*)!TU: (H1M:M!Q2\*-\*(\$0.-!:K+92>C!DEDEI! \ .%/25 ./2+!/2./A2' /!4-. ' /% !<\$%4\*%2!\*!) /&2\$+!2))-K2' /!\$' /&2!0-\*%2%/!5 ./2+L\* <>M! 1 )/2+!-\*%@\$' (!./!Q\*\* (-2! 3 .4%\$! /5 .% !<20\$<2<!) \*+!TU: !. --! 4-. ' /% ! \$ '92%/\$ ( ./2<! 5 2+2! 5 \$ /&\$ ' ! "CEEE!)22/!\*)! .!+\$92+!\*+!-. @2C!%\*"! "CBEE!)22/!5 .% !0&\*%2' !/\*!2' %K+2! '\*/&\$' (!.2(\*!" 8 3 . 5 6cm!"CEEE!\*0.2(&\$)0.2(' (!.2(\*!\*01 ")0.2(\*. 5 8 3 . 5 6c 5 .2((.)24<M!!)TJ\*!')0.2(\*+\*%)-0.

! "#\$%&'Y')\*P7&': 160'/0%"6M'3%/"2/#&', /6"2';, Q"' : 5&%C"1\$6'6\$#4/. &A'D"07'D/0&%, 13"&6'."M&-Q'/44&.0&3', Q' \ \ P+ "'2'2/CQ\* <\*P7"3'  
-&/60'/0%"6M'3%/"2/#&', /6"2'D"07'D/0&%, 13"&6'/44&.0&3', Q' \ \ P+ "'2'2/CQ\*

! R<2' /\$>\$' (!5 ./2+L\* <\$2%!. /!2\$/&2+!2' <!\*)!/&2!%420/+KA!\$%\$A4\*+/. ' /!/\*!\*+(. '\$;2!<\$%/+SLK/\$92!  
% . A4-\$' (!0. A4.\$ ('%M! aK+!+2%2. +0&!%/ . /2<!\*)!)(. /&2+\$' (!)\$%&!(K/%!)+\* A!)\$%&2+A2'!'!\$02!)\$%&\$' (!  
0\*A42/\$/\$\* '%M!Q\$92' !/&2!)K' <\$' (C! .!-. +(2!0. A4.\$ ('!0. ' !L2!<\* '2!./! . +(2!5 ./2+L\* <\$2%!\*! . %%2%!  
/&2!.00K+.0>!\*!)/&2%2!/+2' <%!. ' <!A\* <2-\$' (M!R' /2(+./\$' (! . '!.44!)\*)!)\$%&2+A2'!'!/\*!\*(1/&2!2J.0!Q, :!  
0\*+<\$' ./2%!\*!)/&2\$+!0./0&!5 \$/!/&2!)\$%&!-2' (/&!. ' <!%420\$2%L2)\*+2!/&2>!%2' <!\$' !/&2!(K/%!5 \*K-<!L2!  
K%2)K-M! ?&2!)\$2-<!\*)! 3 , !+2%2. +0&!\$'!) +2%& 5 ./2+!L\$\*/. !)\$%' 25! . ' <! .!A\*+2!-. +(2%0. -2!% . A4-\$' (!  
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! 3 , %! . +2!L2\$' (!<24\*%\$/<2!\$' /!2++2%/+\$. -C!)+2%&5 ./2+C! . ' <!A. +\$' 2!2'9\$+\*' A2' /%M!#\*+!/&2!4. %/  
0\*K4-2!\*)!<20. <2%]!+2%2. +0&!&. %!L22'!) \*0K%2<!\* ' ! 3 , !\$A4.0/%!\* ' !/&2!A. +\$' 2!2'9\$+\*' A2' /M! a' ->!  
+202' /->!&. %!/&2+2!L22' !. !4K%&!/\*!0&. ' (2!/&2!\$AL. -. '02!\$' !+2%2. +0&!L2/5 22' !A. +\$' 2! . ' <!  
) +2%& 5 ./2+!%/K<\$2%M! ?&2%2!%/K<\$2%!/&. /!<\*!2J\$%/4+\*9\$<2!0+\$/\$0. -!\$' %\$ (&!\$' /!\*/&2! .LK' <. '02! . ' <!  
.00KAK-. /\$\* ' !\*)! 3 , %!\$' !)\$%&! . ' <!/&2!\$' <\$+20/! . ' <!<\$+20/!%\*K+02%1\$' /!\*)+2%& 5 ./2+!%>%/2A%M!  
V\* 5 292+C! .0+\*%\$!/&2%2!%/K<\$2%!/&2+2! .+2!A. '>!\$' 0\* '%\$%/2' 0\$2%!. A\*' (!A2/&\* <\*-\$ (\$2%!/&. /!+2%K-/%!  
\$' !<\$))2+2' /!0\* ' 0-K%\$\* '%M!R/!\$%!@ ' \* 5 ' !/&. /! \ , a !)\$%!/&2!4+2)2+2<!% . A4-2!4+24. +./\$\* ' !A2/&\* <!LK/  
b`mDO!\*)!%/K<\$2%K%2<!2\$/&2+! .!<\$))2+2' /!/20& '\$SK2!+!&. <! ' \*!% . A4-2!4+24. +./\$\* ' !H? . L-2!"IM! 1 -%\*C!  
/\*!(2!/.00K+. /2! 3 , !\$<2' /\$)\$0. /\$\* ' !/&2!K%2!\*)!#?R8!\*+!8' !. ' .->%\$%\$!\$%+2SK\$+2<!LK!/bN!b`O!\*)!  
%/K<\$2%!+2-\$2<!%\$A4->!\*' !9\$%K. -!\$<2' /\$)\$0. /\$\* ' !H? . L-2!"IM!T\* 5 !/&. /!/&2+2!\$%!(+\* 5 \$' (!\$' /2+2%/!\$' ! 3 , %!  
\$' !)+2%& 5 ./2+!\*+(. '\$%A%Cl&. +A\* '\$;2<!A2/&\* <\*-\$ (\$2%!. +2!+2SK\$+2<!/\*!A. @2!4+\*42+!0\*A4. +\$%\* '%!!!  
L2/5 22' !%/K<\$2%M! (?&2!A. G\*+!%\*K+02!)\*+!)+2%& 5 ./2+! . SK. /\$0!%>%/2A%1\$%!@ ' \* 5' !. %! \ \ ? , !2))-K2' /M!  
1 %!/&2!-\$/2+. /K+2!(+\* 5 %!5 2!K+(2!%0\$2' /\$%/!\$' !/&2!)\$2-<!/\*!0\* '%\$<2+!%/K<>!%\$/2%L. %2<!\*' !@ ' \* 5' !  
%\*K+02%!. ' <!/&2\$+!4+\*J\$A\$>M! : 0\$2' 02!%K44\*+/\$' (!/&\$%14+2%2' /!%\*-2 (\$%-./\$\* ' !/\*!+2SK\$+2!)\$-./+./\$\* ' !  
K4(+. <2%!\*!0./0&! 3 , %!\$' !2))-K2' /!\$%!2' 0\*K+. (2<M!Z\$@2!\*/&2+!+29\$2 5 %C!/&2!0. --!)\*)+!A2/&\* <\*-\$ (>  
K' \$)\*+A\$>!\$%10-2. +M! ?&2!0&\*\$02!\*)!+2%2. +0&!%\$/2!%&\*K-<!L2!/\$2<!/\*!+20\*A A2' <./\$\* ' !A. <2!L>!/&2!  
A. 4!\$' !4-. 02%!\*!L\* /&!&\$ (&!. ' <!-5 !4+\*L. L\$-\$>!\*)!0\* '/. A\$' ./\$\* ' !M!H" I!/&2!% . A4-2!\$; 2!)\*+!)\$%&!(K!  
% . A4-2%!' 22<!/\*!L2!(+2. /2+!/&. ' !BEM! 1 --!/&2!%/K<\$2%!%&\* 5! .!-. +(2!<\$0+24. ' 0>!\$' !% . A4-2!\$; 2C!

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3 , !%\$; 2!/& . /!%&\*K-<!L2!A2 . %K+2<M! ?&2!\*L2+92<!4 . +/\$0-2!%; 2!K%2<!'!A . '>!%/K<\$2%!+ . ' (2<!) +\*A!  
EMbBKA!/\*!\*92+!BEEKA!H? . L-2!DIM! ?&\$%!A2 . %K+2A2' /!%&\*K-<!L2!%/ . ' < . +<\$; 2<!/!"KAM!HNI!  
: 420/+\*%0\*4>C!8' !\*+!#?R8C!%&\*K-<!L2!K%2<!/!\*!\$<2'/\$)>!/&2!3 , %M! i \$%K . -!%\*+/\$' (! . '<!'<2'/\$)\$0 . /\$\* '!  
\$%!//\$--!\$A4\*+/. ' /!/\*!A2 . %K+2!/&2!3 , %!LK/!/& . /!AK%/!L2!)\*--\*52<L>!8' !\*+!#?R8! . ' .->%\$!H7\*-- . +<!  
2/! . -MC!DE" [IM! a92+ . --C!/&2!)\$2-<!\*!)! 3 , !\$' !)+2%&5 . /2+!)\$%&!(K/%!\$%K' <2+%/K<\$2<!. ' <+2SK\$+2%!A\*+2!  
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! 1 %!/&2!'22<!)\*)+2%&5 . /2+!0\* ' /\$' K2% /!\*!+\$%2!/&2+2!\$%! . ' !\*L9\$\*K%!'22<!)\*)+!\$A4+\*92<!  
/+2./A2' /! . /! \ \ ? , %!%\*-2%!! 3 , %! . +2!L2\$' (!/+ . ' %4\*+2<!/&+\*K(&!+\$92+%!L>!/&2!2))-K2' /!+2-2 . %2<M!  
#K/K+2!%/K<\$2%!'22<!/!)\*)0K%!'!L\* /&!/&2!3 , !0\* ' / . AS' . /\$\* ' !\*)!/&2!20\*%>%/2A! . ' <!)\$%&!/& . /! . +2!  
\$' (2%/\$' (!&2!3 , %M! ?&\$%!/>42!\*)!%/K<>!5\$--! . --\*5!0\$2' /\$%/!/\*!<2/2+A\$' 2!/&2!0\*+20/!\$' <\$0 . /\*+!  
%420\$2%!/& . /!2J4\*%2%!/&2!&2 . -/&!\*!)/&2!%>%/2A!H7\*-- . +<2/! . -MC!DE" [IM! a92+ . --C!/&2!)\$2-<!\*!)! 3 , !\$' !  
) +2%&5 . /2+!)\$%&!\$%K' <2+%/K<\$2<!. ' <+2SK\$+2%!A\*+2!./2'/\$\* 'M! ?&2!4-2/&\*+ . !\*)!%/K<\$2%!'<\*2!'!/&2!  
A . +\$'2!2'9\$+\* ' A2' /!%&\*5%!\*&\*5!) . +!+2 . 0&\$' (! . ' <!'&\*5!\$A4.0)K-!3 , !4\*--K/\$\*' !M! ?&2!0K+2' /!  
\$'0+2 . %2!\$' !3 , !+2%2 . +0&!'!)+2%&5 . /2+!)\$%&!\$%!)\$' . -->!4+\*9\$<\$' (!\$')\*+A . /\$\* ' !\*!'&\*5!3 , %! . +2!  
)20/\$' (!2'9\$+\* ' A2' /!%& . /! . +2!0-\*%2+!/\*!'&\*A2M!Q-\*L . -->)+2%&5 . /2+!\$%!L20\*A\$' (! . !-\$A\$/\$' (!  
+2%\*K+02! . ' <!4\*--K/\$\*' !M! /&+2 . /2' \$' (!&2! . 9 . \$- . L\$-\$/>!\*!)+2%&5 . /2+!K%2!HF2+@2%e 3 2<+ . ' \*!2/! . -MC!  
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82)2+2'02%!!

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1 '<+. <2C! 3 M! 7MC! \ \$ '2A\$--2+C! =M! aMC! P. +L\*% . C! , M! : MC! #\*+ /K' . /\$C! 1 MC! 7&2- . ; ; \$C! ^MC! 7\$ ' O\$ ' 2--\$C! 1 MC! \_!  
Q\$. ++\$; ; \*C! ?M! HDE" [IM! # \$+ % /! . 00 \*K' /! \*)! 4- . % /\$O! 4\* --K /\$\* ' ! \$A4. 0 /\$ ' (!) +2% & 5 . /2+!) \$% & 2% ! \$ ' ! /& 2!  
1 A. ; \* ' 6! R' (2% /\$\* ' ! \*)! 4- . % /\$O! <2L+ \$% ! L! > ! 4\$+ . ' & . % ! . ' <! \* /& 2+ ! % 2+ . % . -A\$ <% ! 5\$ /& ! <\$92+ % 2!  
) 22 <\$ ' (! & . L\$ /% M! I2C" % I2 : & 20 / - ' + I --\$0" I2' ; < /% M" 2# = ' I66 & T J' ( N@XAC! > WWC! ` XXo" ` ` NM!  
& /4% 6cc <\* \$M\* + (c" EM" E" XcGM2 ' 94\* -MDE" dM" EM Edd!

1 '<+. <C! 1 M! ZM! HDE" " IM! 3 \$O+ \*4- . % /\$O! \$ ' ! /& 2! A. + \$ ' 2! 2 ' 9\$+ \* ' A2 ' /M! 8 /% " 2 & ' + I --\$0" I2' <\$-- & 0" 2C!  
F> HdIC! " B [Xo" XEBM! & /4% 6cc <\* \$M\* + (c" EM" E" XcGM A. +4\* -LK- MDE" " MEBMENE!

P. - <5\$ ' C! 1 M! =MC! 7 \*+ % \$C! : M! 8MC! \_ ! 3 . % \* ' C! : M! 1 M! HDE" XIM! , - . % /\$O! ^ 2L+ \$% ! \$ ' ! D [! Q+ 2. /! Z. @ 2%!  
? + \$LK / . + \$2% 6! 82- . /\$\* ' % ! / \* ! \ . /2+ % & 2 < ! 1 // + \$LK / 2% ! . ' <! V > < + \* - \* (> M! I2C" % I2 : & 20 / - ' L. " & 2. & ' O'  
P & . 721 - I # Q C! Y ? H" [IC! " EN ` ` o" EN dB M! & /4% 6cc <\* \$M\* + (c" EM" ED" c. 0% M2% /XLED [ " ` !

P. --2' /C! 1 MC! 7 \*+ 0 \*+ . ' C! , M! ZMC! 3 . << 2' C! aMC! V2- AC! , M! 1 MC! \_ ! Z\* ' ( % / . ) 2C! #M! fM! HDE" XIM! : \* K+ 02% ! . ' <!  
% \$ ' @ % ! \* ) ! A\$ O+ \* 4- . % /\$O! \$ ' ! 7 . ' . <\$ . ' ! Z. @ 2! a ' / . + \$\* ! ' 2. + % & \* + 2C! / + \$LK / . + > ! . ' <! L2. 0 &!  
% 2 <\$ A2 ' /% M! 8 /% " 2 & ' + I --\$0" I2' <\$-- & 0" 2C!

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7\*--.+<C!#MC!Q.%42+\$C!fMC!Q.L+\$2-%2'C!QM! \ MC!\_!?.%%\$'C!PM!HDE" [IM! ,-.%/\$O! ,.+\$O-2!R' (2%/\$\* '!L>!  
 \ \$-<!#+2%&5 ./2+!#\$%&6! 1!7+/\$O.-!829\$25M!I2C""I2 : &20/-'L."&2.&'O'P&.721-I#QM!  
&/4%6cc<\*\$M\*+(c"EM"ED"c.O%M2%/M [LENEdN!

7\*--.+<C!#MC!Q.%42+\$C!fMC!Q\$L2+/C!PMC!F442C!QMC!1 ;\$ASC! : MC!8\*0&2+C! i MC!\_!?.%%\$'C!PM!HDE" dIM!  
 1 '/&+\*4\*(2 '\$O!4 .+/\$O-2%!'!/&2!%/\*A.O&!0\*'/2'/%!. '<!-\$92+!\*!)/&2!)+2%&5 ./2+!)\$%&! :SK.-\$K%!  
024&.-K%M!L."&2.&'I4'P7&'PI0/-'I2C""I2 : &20C!FWVC!"DB`o"DXbM!  
&/4%6cc<\*\$M\*+(c"EM"E"XcGM%O\$/\*'/2'9NDE" dNEXMN"N!

7\*K+/2'2ef\*'2%C! \ MC!mK\$' 'C!PMC! 3 K+4&>C!#MC!Q.+>C! : M!#MC!\_!T.+.>.' .%5 .A>C!PM!FM!HDE""`IM!  
 a4/\$A\$%./\$\* '!\*)!2' ;>A./\$O!<\$ (2%/\$\* '!.' <!9.-\$<./\$\* '!\*)!%42O\$A2' !4+2%2+9./\$\* '!A2/&\*<%)\*)+!  
/&2!.' .->%\$%!\*!)\$' (2%/2<!A\$O+\*4-.%/O%M!) 2/-Q0" ./-' 8 &07136C!NH [IC!"bN`o"bbBM!  
&/4%6cc<\*\$M

V2+A%2'C!FMC!3\$'/2'\$(C!:M!3MC!P2%%2-\$'(C!FMC!\_!=\*2-A.'%C!1M!1M!HDE"dII!mK.-\$/>!7+\$/2+\$.)\*)+!/&2!  
1'.->%\$%!\*!)3\$0+\*4-.%/\$0!\$'!P\$\*/.!:A4-2%6!1!7+\$/0.-!829\$25M!I2C""I2:&20/-'L."&2.&'O'  
P&.72I-I#QC!Y>H"dIC!"EDNEo"EDbEM!&/4%6cc<\*\$M\*+(c"EM"ED"c.0%M2%/MdLE"X"!"  
V\*+/\*'C!1M!1MC!fs+(2'%C!3M!^MC!Z.&\$92C!FMC!9.'!P\*<2(\*AC!,M!3MC!\_!i\$G92+C!3M!QM!HDE"dII!?!&2!  
\$')-K2'02!\*)!2J4\*%K+2!. '<!4&>%\$\*-\*(>!\*'!A\$0+\*4-.%/\$0!\$(2%/\$\*!'!L>!/&2!)+2%&5./2+)%)\$&!  
8K/\$-K%!+K/\$-K%!H+\*.0&I!\$'!/&2!8\$92+!?!&.A2%C!1=M!I2C""I2:&20/-'+I--\$0"I2C!>VFC!"ddo"[bM!  
&/4%6cc<\*\$M\*+(c"EM"E"XcGM2'94\*-MDE"dME"MEbb!  
V\*+/\*'C!1M!1MC!\.-/\*'C!1MC!:4K+(2\*'C!^M!fMC!Z.&\$92C!FMC!\_!:92'<%2'C!7M!HDE" `IM!3\$0+\*4-.%/\$0!\$'!  
) +2%&5./2+!. '<!2++2%/+\$. -!2'9\$+\*'A2'/%6!F9.-K./\$(!/&2!OK+2'!/!



Zj<2+c! 3 M!QM!fMC!RA&\* )C!VM!=MC!Z.<2&\*)C! 3 MC!Zj%0&2-c!ZM! 1MC!Z\*+2';C!7MC! 3 \$ '/2 '\$ (C! : MC! , \$2&-C! : MC!  
 ,+\$A4@2C! : MC! : 0&+ . '@C!RMC!Z.)\*+%O&C!7MC!\_!Q2+</%C!QM!HDE" ` IM!F' ;>A./\$0! , K+\$)\$0./\$\* '!\*)!  
 3 \$0+\*4- . %/\$0%!\$ '!F'9\$+\*' A2' /.-! : .A4-2%M! I2C""I2 : &20/-'L. "&2. &'O'P&. 721-1#QC!Y(HDbIC!

8\*0&c! :mC! \_!P+\$ '@2+c! 1 M!HDE" `I! 8.4\$<! . '<!F))\$0\$2' /! 3 2/&\*<!) \*+! /&2! ^2/20/\$\* ' !\*)! 3 \$0+\*4- . %/\$0!\$ ' !  
/&2!Q. %/+\*\$' /2%/ \$' .-! ?+. 0/!\*)!#\$\$&2%M! I2C"%I2 : &20/-'L. "&2. &'O'P&. 721-1#QC!Y(HdIC!bBDDo  
bBNEM!&/4%6cc<\*SM\*+(c"EM"ED"c. 0%M2%/M`LEENXb!  
8\*<+\$(K2%CI 3 M! aM! 1L+. '/2%CI TMC!Q\* 'p. -92%CI#M!fM! 3 MC!T\*(K2\$+. C!VMC! 3 .+SK2%CI fM! 7MC! \_!Q\* 'p. -92%CI  
1 M! 3 M! 3 M!HDE" dIM! : 4. /\$. -! . '<! /2A4\*+ . -!<\$%/\$LK/\$\* ' !\*)!A\$0+\*4- . %/\$0%!\$ ' !5 . /2+! . '<!  
%2<\$A2' /%!\*!)! . !)+2%&5 . /2+!%>%/2A!H 1' /Kw! 8\$92+C! , \*+K( . -IM!P7&'L. "&2. &'I4'07&'PI0/-'  
I2C"%I2 : &20C!FVVC!"Bb[o"BB[M!&/4%6cc<\*SM\*+(c"EM"E"XcGM%0\$/\*/2'9NDE" dMENMDNN!  
8KAA2-C! 7M! ^M!Zj <2+c! 3 M!QM!fM!#+\$0@2C!T!M!#M!Z. ' (C! ?MC!Q+\$2L2-2+c!FMe 3 MC!f. '@2C! 3 MC! \_!Q2+</%C!  
Q!HDE"XIM! , - . %/\$0!\$ ' (2%/\$\* ' !L>!42- . (\$0! . '<!<2A2+% . -!)\$%&!)+\* A!/&2!T\*+/&! : 2. ! . '<!P. -/\$0!  
: 2. M! 8 /%"2&' +I--\$0" I2' <\$--&0"2C! ( ?>H"IC!"Nbo"b"m!  
&/4%6cc<\*SM\*+(c"EM"E"XcGM A. +4\*-LK-MDE"BM" "MEbN!  
8> . 'C! , M!QMC! 3 \*\*+2C! 7M!fM!9. ' !#+. ' 2@2+c!fM! 1 MC! \_! 3 \*- '2>C! 7M!ZM!HDEE [IM! 3 \* '\$/\*+\$' (!/&2!  
.LK '< . '02!\*)!4- . %/\$0!<2L+\$%!\$' !/&2!A. +\$' 2!2' 9\$+\* ' A2' /M! +7"-16157". /-'P%/26/. 0"126' I4'07&'  
RIQ/-'LI. "&0Q' <]' <"I-1#" . /-'L. "&2. &6C!VFWH"BDXIC!" [ [ [

\ . ('2+c! 3 MC! \_!Z. AL2+/C! : M!HDE" `Im! !%&67D/0&% '8 ". %15-/60". 6]'I : &%"#2#' I2C""12 : &20/-'  
BI20/ : "2/206`!&//4%6cc<\*\$M\*+(c"EM"EE`c[ `deNeN" [eX"X"BeB!  
\ \$ '<%"\*+C!#M! 3 MC! ?\$-->C! 8M! 3 MC! ?>-2+c! 7M! 8MC! \_! a+A2+\*<C! : M!fM!HDE" [Im! 3 \$0+\*4-. %/\$0!\$ ' (2%/\$\* ' !L>!  
+\$92+\$ ' 2!A. 0+\*\$ \$ ' 92+/2L+. /2%M!L. "&2. &'I4'P7&'PI0/-' I2C""12 : &20C!FWFC!Xdo`bM!  
&//4%6cc<\*\$M\*+(c"EM"E"XcGM%0\$/\*2 '9MDE"dME`MD` ""!  
q\$\*' (C!qMC!n&. ' (C!=MC!7&2 'C!qMC! : &\$C!VMC!ZK\*C!nMC! \_! \ KC!7M!HDE" dIm! : \*K+02%! . '<!<\$%/+\$LK/\$\* ' !\*)!  
A\$0+\*4-. %/\$0!\$ ' !7&\$ ' .]%!-. + (2%/!\$ ' -. '<!-. @2!o!m\$' (&.\$Z. @2M! I2C""12 : &20/-'+I--\$0" I2C!  
>VYC!d[ [o[EXM!&//4%6cc<\*\$M\*+(c"EM"E"XcGM2 '94\*-MDE" `M"DMEd"!  
UK. 'C! \ MC!Z\$KC!qMC! \ . ' (C! \ MC! ^\$C! 3 MC! \_! \ . ' (C!fM!HDE" [Im! 3 \$0+\*4-. %/\$0! .LK '<. '02C!<\$%/+\$LK/\$\* ' !  
' <!0\*A4\*%\$/\$\* ' !\$ ' !5 . /2+c!%2<\$A2'/%C! . '<!5\$-<!)\$%&!)+\*A! , \*>. ' (!Z. @2C!7&\$' .M!  
I. I0IT". I-I#Q'/23' I2C""12 : &20/-'L/4&0QC!(X?C!"dEo"d`M!  
&//4%6cc<\*\$M\*+(c"EM"E"XcGM20\*2 '9MDE"dM" ""DX!  
n&. ' (C!=MC!q\$\*' (C!qMC!VKC!VMC! \ KC!7MC!P\$C!UMC! \ KC!UMC!n&\*KC!PMC!Z. AC! , M!=M! : MC! \_!Z\$KC!fM!HDE" `Im!  
a00K++2 '02! . '<!7& . +. 0/2+\$%/\$0!\*!) 3 \$0+\*4-. %/\$0! , \*--K/\$\* ' !\$ ' !q\$. ' (J\$!P .>!)! ?&+22!Q\*+ (2%!  
82%2+9\*\$+C!7&\$' .M! I2C""12 : &20/-'L. "&2. &'O'P&. 72I-I#QC!Y(H`IC!N` [boNdE" M!  
&//4%6cc<\*\$M\*+(c"EM"ED" c. 0%M2%/M` LEENX[!  
!  
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