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$\ast +) \quad , -\$%. /O' \$1. -)$   
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; , \$&! \*' ! (7#! -\*(#%, (0%#! 7\*; 7(#1! , 2. B#6! (7\*&! , &. ! , 1B, ' +#&! O' 1#%&(' 1\*' ; ! . /! 7. : ! 2, ' 3&! %#, +( ! (.. ! ) , +%. \$%O1#' (\*, -! %#; O-, (\*. ' &! , ' 1! 7#'+#! (7#! (%, ' &) \*&&\*.' ! \$%. +#&&! /%. ) ! \$. -\*+5! (. ! +%#1\*(! \*&&O, ' +#8! Q#%O((! #(!, -! C?=>VG6!/. %! #K, ) \$-#6! &O; ; #&(#1!(7#%#!\*&!, !: #, 3#%#//#+(! . /!) , +%. \$%O1#' (\*, -! \$. -\*+5!. ' ! , &&#(! \$%\*+#&!, ' 1! +%#1\*(! \*' ! ) . %#! 1#B#-. \$#1!, ' 1!) . %#!/\*' , ' +\*, --5!. \$#' ! #+. ' . ) \*#&6! &O; ; #&(\*' ; ! &. ) #! , B. \*1, ' +#! , ' 1\_. %! 1\*&\*! (#%) #1\*, (\*. ' ! . /!(7#!\$. -\*+5! : 7\*+7!&7. 0-1!/\*' 1!\$, %, -#-&\*! !\$%. /\*(, 2\*-\*(58!! !  
W !&O) 6! :

&O; ; #&(#1!(7, (!2, ' 3!+, \$\*(, -!%#HO\*%#) #' (&! 7, B#! , !&\*; ' \*/+, ' (!\$. &(\*B#! #//#+(! . ' !-#' 1\*' ; !. ' +#! 2, ' 3&! %#(, \*! &O//\*+\*#' (!-\*HO\*1!, &&#(&6!O&\*\* ; !HO, %(#%5!1, (, !/. %!bX!2, ' 3&!. B#%

.. 3\* ; !, (!7#!bL6!U#%) , ' 5!, ' 1!W(, -5!\* !, !&\*) \*-, %) , ' ' #%%O&\*! ; !(7#!e\*U|N!; -. 2, -!#+. ' . ) #(%\*+!) . 1#-6!  
&0; ; #1!(7, (!7#!75\$. (7#(\*+, -!\* (%, 10+(\*. '!. /!) , +%. \$%O1#' (\*, -!) #, &0%#&!&0+7!, &l+. O' (#%+5+-\*+, -!



[ 5\$. (7#&\*&! ?! \*&! (7, (! 2, ' 3&4! \$%. /\*(, 2\*-\*(5! ) , 5! ' . (! 2#! , //#+(#1! , &! 2, ' 3&! ) , 5! 2#! , 2-#! (. ! &7\*/(! (7#\*&%  
, +(\*B\*(#&!/%. ) !' #(!!\* (#%#&(!\*+ . ) #!(. !' . '@%, 1\*(. ' , -!, +(\*B\*(#&!, ' 1!\*+%, &#!/#@2, &#1!\*+ . ) #!: 7#'  
-#' 1\*! ; !\*&!. ' &(%,\*! #1!25!) , +%. \$%O1#'( \*, !) #, &O%#&8!

C+) D<>1%1' &8)%5#5&%' 4). -\$45)6&' \$. %#)&665' \$1-7)"&-9#E>%.. 61\$&"181\$=)  
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#&(\*) , (#&! . /!(7#!#/#+(! . /!/\*' , ' +\*, -!&(%O+(0%#!. ' !2, ' 3!\$%. /\*(, 2\*-\*(5!, %#!) \*K#18!D, (7#%!(7, ' !O&\*' ; !%\*&3@ , 1d0&(1!) #, &0%#&! , &!\*\* !(7#!. %\*; \*\* , -!^ , &#!, ; %%#) #' (6!(

, &! . \$#%, (\* ; ! #K\$#' &#&! 1\*B\*1#1!25!, &&#(88! X\*) \*-, %56! U. 11, %1!#(!, !C?=>AG6! ' . (#1!(7#!+. &( @(. @' +. ) #!  
%, (\* . 6! 1#//\* #1!, &! (7#!%, (\* . !!(. , -!. \$#%, (\* ; !+ . &(! . !(. (, -!\* +. ) #6!\*&!, ' !\*) \$ . %, ' (! 1#(#%) \*', ' (! . /!  
\$%. /\*(, 2\*-(5! ) #, &0%#1! 25! (7#! DEI8! 97#5! /. 0' 1! (7, (! +. &( @(. @' +. ) #! %, (\* . ! 7, &! , ! ' #; , (\*B#! , ' 1!  
&\*; ' \*/+, ' (!#//#+(!. ' !2, ' 3!\$. %. /\*(, 2\*-(5!0&\* ; !1, (, !/%. ) !2, ' 3&!

(7#! \*' 1\*B\*10, ! 2, ' 38! b' 1#%\$#/#+(! +. ) \$#(\*(. ' ! (7#! \*' 1#K! \*&! ]#%. ! , &! (7#! . 0(\$0(! %\*+#! C) , %; \*' , -!  
%#B#' O#G!#HO, -&!) , %; \*' , -!+ . &(6!, ' 1!g' . %) , -h!#+. ' . ) \*+!\$. /\*(&!, %#!]#%. 8!F++. %1\*' ; -56!\*' !. 0%2, &#-\*' #!  
) . 1#-6!. ' -5!(7#!P#%' #%!W 1#K!\*&!\* + -O1#18!P#%' #%"\* 1\*+#+&! : #%#!O&#1!\*! 2, ' 3@\$%. /\*(, 2-\* (5!&(01\*#&!&O+7!  
, &!!  
N, 01. &!, ' 1!X. -\*&!C?==aG! : \*(7! 1, (!/. % N#K\*, ' ! 2, ' 3&! . B#%>aaA@?==S6!, ' 1!L, &) , ' !#(! , -!C?=>=G!  
. 3\*! ;!, (!. -1!, ' 1!' #: !b!) #) 2#%&! . B#%>aaS@?==<8!^. (7!&(01\*#&!/ . 0' 1!(7, (! (7#!P#%' #%!W 1#K!7, 1!, !

E0%! 3#5! 1, (,! &(#)! . '! (7#! . '#! 7, ' 1! /%. ) ! (7#! J\*(+7@

3&"85)2(,-#\$%0<5-\$#)1-)\$.45),G1)@\$&%\$). 6)G&'%. >%0/5-\$1&&)3.. 8#)J2K\*LM!

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,-\$%0<5-\$)	! ""%5:1&\$1. -)	D665 '\$)
P., ' @(. @\ , -0#!D, (*. !	P9\!	Q. ' &(%,*' &!7*; 7-5!-#B#%#1!) . %(; , ; #! 1. : ' !\$, 5) #' (&!25!#' / . %+*' ; !. %! #' +. 0%, ; *' ; !, !-* ) *(!. %!25!1#(#%) *' *' ; ! %#; O-, (. %5!%&3!: #' ; 7(&8!
Y#2(@(. @W +. ) #!D, (*. ! 9*) #@	Y9W	Q. ' &(%,*' &!7. 0&#7. -1!*' 1#2(#1' #&!25! #' / . %+*' ; !. %!#' +. 0%, ; *' ; !, !-* ) *(8!

L+) N#581-5)<. /58)  
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 \$%. /\*(, 2\*\*\*(5!) . 1#-!, &!&O) ) , %&#1\*\* !X#+(\*. ' !A6!(. !; 0\*1#(7#!&(015!. !) , +%. \$%01#' (\*, -!\$. -+5!#/#+(&  
 . ' !2, ' 3&4!\$%. /\*(, 2\*\*\*(58!" #!+. ' &(%O+(#1!, !2, &#-\* #!). 1#-!: 7\*+7!&#3&!(. !\*\* +01#!, -!#-#B, ' (!+. ' (%. -!  
 B, %\*, 2-#&!. ! (7#! //#+(! . /! \$. -+5! \*!&!. %&#+(5!) #, &0%#16! 2#/ . %#! , 11\*\* ;!(7#!) , +%. \$%01#' (\*, -!\$. -+5!  
 B, %\*, 2-#&!. ' #!25!. #8!  
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 W !-\*\* #!: \*(7!(7#!20-3!. /!(7#!-(#, (O%#! #:!) #, &0%#! . 0%1#\$' 1#' (!B, %\*, 2-#6!2, ' 3!\$. /\*(, 2\*\*\*(5!25!(7#!  
 %%(0%' &!. ' !, B#%, ; #!, &&#(&!CDEFFG!, ' 1#HO\*(5!CDEF1G!DEFF!%#/#+(&!7. : !, !2, ' 3!\*&!O&\*\* ; !\*(&!, &&#(&!. !  
 ; #' #%, (#!\$. /\*(&!: 7\*-#!DEF!) #, &0%#!(7#!\$%/. %) , ' +#!. !, !2, ' 3!2, &#1!. ' !\*(&!, B#%, ; #!&7, %#7. -1#\*&4!  
 #HO\*(5! (7#! %%(0%' !(. !&7, %#7. -1#%&!. ' ! (7#\*% #HO\*(5! 97#! %%(0%' &!/\*; 0%#! \*!& 2, &#1!. ' !, !' 0) 2#% . /!  
 &02+. ) \$. ' #' (&6! ' , ) #5! ' #( !\*\* (#%&(! \*! +. ) #6! ' . ' @' (#%&(! \*! +. ) #6! ' . ' \*\* (#%&(! +. &(&!, ' 1!  
 \$%. B\*&!. ' \*\* ; !, ' 1!2, ' 3&!, %#!-3#-5! (. !(% , 1#@. //!+7, ' ; #!\*\* !(7#&#!&02+. ) \$. ' #' (&!. !&(. , 2\*\*\*(58!!  
 !  
 97#' !/. %\*\* 1#\$' 1#' (!+. ' (%. -!B, %\*, 2-#86!: #!7, B#!&#-#+(#1!(7#!&(. ' 1, %1!, ' 1!+.) ) . ' !2, ' 3@#\$#+/\*+6!  
 \*\* 10&(%5!, ' 1!) , +%. #+. ' . ) \*+!B, %\*, 2-#&!. ' . (#1!\*\* !X#+(\*. ' !A! (. !#K\$-, \*! ! (7#! 1#(#%) \*\* , ' (&!. /! 2, ' 3&4!  
 \$%. /\*(, 2\*\*\*(5!C&#!9, 2-#!A! 2#-. : G! F&!&7. : ' !\*\* !(7#!/. 0%(7!+. -0) ' 6!/. %) , ' 5!. /!(7#&#!B, %\*, 2-#&!(7#!  
 %%&O-(&!\* !(7#!%#&#, %+7!-(#, (O%#!CX#+(\*. ' !AG!&7. : !) \*K#1!#&O-(&6!: #!&7. : !\*\* !(7#!/\*, -!+. -0) ' !. 0%. : !'  
 , !\$%. %!#K\$#+(, (\*. ' 8!  
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3&"85)C()@5\$5%<1-&-\$.#. 6)N&-9#E)?%. 61\$&"181\$=)/5#'%1>\$1. -!

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O&%1&"85#)	; = < ". 8)	?%. F=)	P1\$5%&\$0%5)) %58&\$1. -) JQBRM)	S0%) 5F>5'\$5/) %58&\$1. -) JQBRM)
<i>D</i>	<i>d</i>	<i>a</i>	<i>ab</i>	

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CPI\G!(7#!%, (\* . !#HO\*(5\_. (, !, &&#(&Z!+##1\*(!%\*&3!CQDWXLG!) #, &O%#1!25!'. ' @\$%/. %) \*'; !-. , ' &\_%. &&!. , ' &Z!  
 -\*HO\*1\*(5!%&3!CPDWXLG!&7. : ' !25! ; %. &&!. , ' &\_#. &(\*&Z!) , ' ; #) #' (!#//\*#'+5!CQEX9WeQG!, &!&7. : ' !25!  
 +. &(@' +. ) #!%, (\* . !(. (, !. \$#, (\* ; !#K\$#' &#&\_. (, -!\* +. ) #Z!, ' 1!1\*B#%&\*/+, (\* . !CYW\XWUG!: 7\*+7!\*&!(7#!  
 %, (\* . !' . ' @' (#%#&(!\* +. ) #\_%; %. &&%#B# O#8!!  
 !  
 G#3, &. \*5!%#/##&!(. !2, ' 3\*' ; !\* 10&(%5!: \*1#!B, %, 2-#&!: 7\*+7!, %#!(: . /.-18!97#!^QDWXW!B, %, 2-#!\*&!, !B#+(. %  
 +, \$(0%\* ; !(7#!\$%#&#'+#!. !/, !2, ' 3\*' ; !+%%&\*!10%\* ; !(7#!\$%\*. 1!, !+. 0' (%5!#K\$#%#'+#1!, !2, ' 3\*' ; !+%%&\*!6!, &!1#/\*#1!25!P, #B#', !, ' 1! \, -#\* +\*, !C?=>TG8!W(!\*&, !10) ) 5!B, %, 2-#, ' 1!\*(!&+. 1#1!. ' #!\* !!(7#!5#, %!(7#!  
 +%%&\*! &(. %(&! 0' (\*-! (7#!5#, %!\*(! : , &! . B#%, ' 1!\*&! . (7#%: \*&#! ]%#. 8! PW!eY!j !&! (7#!+7. &#'\*!+. ) \$#\*(. ' !  
 B, %, 2-#6!(7#!P#%\* #%%W 1#K6!: 7\*+7!B, %%#&2, ' 3!25!2, ' 38'!e. (#!(7, (!: #!1. !' . (!#) \$-. 5!(7#!f, ' ], %eD. &&#!  
 [ ! &(. (\*&\*! 0' -\*3#! X+7, #+3!, ' 1! Q\*7p3! C?=>?G6! Y, B\*&!, ' 1! L, %\*) !C?=>aG!, ' 1!. (7#%&6! . : \*'; !(. !&. ) #!  
 (#+7' \*+, -!\*&O#&!, %&\*! ; !: \*(7!(7\*&!) #, &O%#8!  
 !  
 97#! I "2\*/!B, %, 2-#!\*&!(7#!B#+(. %! . /!) , +%. #+. ' . ) \*+!B, %, 2-#&! 97#&#!+. ) \$%&#! I+. ' . ) \*+! ; %. : (7!  
 CDUYfU" DG!(7#!D#, -!UYf!; %. : (7!, (#!C, ' ' 0, -!CGZ!W /-, (\* . !C!eJPF9G!(7#!QF!WW /-, (\* . !%, (#!C, ' ' 0, -!CG8!!  
 !  
 f-#, &#!&#!F\$\$#1\*K!?!/. %(7#!&0) ) , %5!&(. (\*&\*!+, +%. &&!(7#!&, ) \$-#6!: 7\*+7!, %#!\*!-\*#!: \*(7!(7. &#!\*! !  
 . (7#!&(01\*#&!&0+7!, &!Y, B\*&!, ' 1!L, %\*) !C?=>aG!F\$\$#1\*K!?!,-&. !7. : &(7#!+. %%#-, (\* . !') , (%K!/ . %(7#!  
 B, %, 2-#&!, +%. &&!(7#!&, ) \$-#8!" #!/'' 1!(7, (!' . '#!. !/(7#!B, %, 2-#&!, %%!7\*, 7-5!+. %%#-, (#1!#K+#\$(!/. %(7#!  
 +. %%#-, (\* . !2#(: %%#!), ' , ; #) #' (!#//\*#'+5!CQEX9WeQG!, ' 1!P#%\* #%%W 1#K!CPWeY!j G!, (!@=8VRa6!: 7\*+7!\*&  
 ) . 1%, (#-5!' #; , (\*B#-5!+. %%#-, (#1!Cf#, %&. ' 4&!+. %%#-, (\* . !+. #!/'' 13-#!#(!, -!C?==AGG8!e. ' #!  
 . !/(7#!. (7#!&. %%#-, (\* . !&#K+##1!=8S8!!  
 !  
 " #!#&(\*) , (#1!(7#!2, &#-\*! #!) . 1#!25!, ' #-!EPX!: \*(7!-, ; #1!\* 1#\$#1#'( !B, %, 2-#&!, &!\*! \$, \$%&!&O+7!  
 , &!N%], #\*!#(!, -!C?=>AG6!f#(%\*, !#(!, -!C?=>SG!, ' 1!Y, B\*&!, ' 1!L, %\*) !C?=>aG!F&!. (#16!-, ; ; \*'; !(7#!B, %, 2-#&  
 25!, !5#, %!, &!&7. : ' !\*! #HO, (\* . !C>G!&!. !, B. \*1!(7#!\$. (#' (\*, -!\*&O#&!. /!#' 1. ; #' #\*(5!C&#!Y, B\*&!#(!, -!

\*&!, \$\$%. \$%\*, (#8!CDEFF!@ [ , 0& ) , ' !(#&(6!j !M>V=8<?6!\$@B, -O#M=8==Z!DEFI!@ [ , 0& ) , ' !(#&(6!j !M>=A8aS6!\$@B, -O#M=8==G8!!

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J0%(7#%!\*!. %1#%(. !#K, ) \*! #!(7#!d. \*! (!&; ' \*/+,' +#!. /!\$. (#' (\*, -!/\*K#1!#/#+(&! (7#//\*K#1!#/#+(!) . 1#-&! ,%#! (#&(#! O&\*! ;! (7#! P\*3#-\*7.. 1! D, (\*. ! (#&(8! 97#! %#&O-(&, %#! &O\$\$. %(#1! 25! (7#! 7\*; 7-5! &(. (\*&\*+, -! &\*; ' \*/+, ' +#!. /! (7#! P\*3#-\*7.. 1! D, (\*. ! (#&(!, (!>C6! SC!, ' 1!>=C6!: 7\*+7!&O; ;#&(!2, ' 3!/\*K#1!#/#+(&, %#! &\*; ' \*/+, ' (!\*! (7#!) . 1#-8!F++. %1\*! ;-56!(7#!) . 1#-&! : %##!#&(\*), (#1!: \*(7!2, ' 3!-#B#-!/\*K#1!#/#+(&! : \*(7! " 7\*(#4&!+%&&@#+(\*. ' , -!&(. ' 1, %1!#%%. %&!, ' 1!+. B, %\*, ' +#!C+. %%#+(#1!/ . %1#; %%#&! . /!%##1. ) G!, ' 1!: #! O&#1!" 7\*(#!C>aT=G!+%. &&@#+(\*. ' , -!&(. ' 1, %1!#%%. %&!, ' 1!+. B, %\*, ' +#!C+. %%#+(#1!/ . %1#; %%#&! . /!%##1. ) G! (. !#10+#!(7#!\*) \$, +(!. /!7#(#%. &3#1, &(\*+(5!C, &!\*!Y, B\*&!, ' 1!L, %\*) !C?=>aGG8!

T+) G&1-)5#\$1<&\$1. -)<. /58)%5#08\$#6. %)\$45>5%1. /)2KKKR2K\*C)J&88'. O-\$%15#M

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9, 2-#!R!%#. %(#!(7#!) \$\*%\*+, -!%#&O-(&!/ . %12, ' 3&4!\$. /\*(, 2\*-\*(5!) #, &0%#1!25!DEFF!, ' 1!DEFI!C#HO, (\*. ' !> , 2. B#G8!97#!DEFF!). 1#-!\*&#!#&(\*), (#1!O&\*! ;!6RV>!2, ' 3&!: \*(7!>>6A=T!. 2&%B, (\*. ' &!: 7\*&(! (7#!DEFI!) . 1#-!\*!+-01#1!?6RSA!2, ' 3&!, ' 1!>>6>Sa!. 2&%B, (\*. ' &8

3&"85)H()U57%5##1. -)5#08\$#)6. %%5\$O%-). -)&: 5%&75)&#5\$#)JUS! ! M&- /)%5\$O%-). -)&: 5%&75)5V01\$=)  
JUS! DM&/)5>5-/5-\$): &%1&"85)J&88' . O-\$%15#M6. %)\$45)>5%1. ./)2KKKR2K\*C)  
)

!	)	US! !)	US! D)
!	SO%5F>5'\$5 /)%58&\$1. -) JOBRM	?&-58)SP; )W1\$4)"&-9) 85: 58)61F5 /)5665' \$#)	?&-58)SP; )W1\$4)"&-9) 85: 58)61F5 /)5665' \$#!
Q. ' &(, ' (! PeXWhI C@>G!	! o!	A8VT< i i i! C?8aG! @	AT8??Vi i i! CR8AG!

&; '\*' /+, ' (!, ' !! #; , (\*B#! #!/#+(! . ' !2, ' 3&4! \$%. /\*(, 2\*-\*(58! Q. ' \*&&(#' (! : \*(7! (7#%&#&O-(&6! . 0%# #) \$\*%\*, -! #&O-(&! &O; ; #&(! \* 1#/#1!(7, (!2, ' 3!&]#! 7, &!, !&; '\*' /+, ' (!, ' !! #; , (\*B#! #!/#+(! . ' !\$%. /\*(&) #, &O%#1!25! DEFF!, ' !1DEF!1!10%\*: !(7#!\$#%. 16!: 7\*+7!\* 1+, (#(7, (!-, %#! 2, ' 3&!&O//#%#1!-. : #&%\$. /\*(, 2\*-\*(5!(7, ' ! B#%, ; #!. B#%?==@?=>A8! " #!&O; ; #&(! (7, (!7\*&!&!. (!&. -#5!10#!(. !, !; %#, (#%\*) \$, +(!. /! (7#!+\*&\*&!. ' ! -, %#%2, ' 3&!, &!(7#!+\*&\*&!B, %, 2-#!&!, -. !&; '\*' /+, ' (8!

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F!' #; , (\*B#!&\*; ' !/. %!+\*&%#1\*(!%\*&3!CQD!XLG!, &) #, &O%#1!25!'. ' @#\$%/\_. %) \*'; !-., ' &\_; %. &&!-., ' &6!&7. : &(7, (! . 0%#&O-(&!, %#!&\*) \*-, %!. (!7#%\$%. (%#1!%#&O-(&!. !/&(O1\*#&!&O+7!, &f#(\*, !#(!, -!C?=>AG6!F(7, ' , &. ; -. O!#(!, ! C?=<G8!97\*&!&7. : &(7, (!7#!\*+\*&, #&!\*!\$!. . %, &&#(1HO, -\*5!: \*--!7, B#!, !' #; , (\*B#!, ' 1!&; '\*' /+, ' (!#/#+(! . ' !2, ' 3!\$. /\*(, 2\*-\*(58! EB#%, -6!) , ' , ; \*!%; 36!, ' 1!\*!&.) #!, &\$#+(!#&#\*, -5!+\*&%1\*(!%&3!7, &!2#+. ) #! . ' !#. /! (7#!). &(!+#!' (%, -!\*&O#&!\*! 2!, ' 3\*! ; !, ' 1!/. %#; O-, (. %!&C, &!%#/-#+(#1!\*! (7#!^, #&-!F++,. %1&G!, &! \$!. . %!+\*&%1\*(!%&3!\$, +(\*#&!7, B#!2#&!, ' !O' 1#%5\*! ; !/, +(. %#, 1\*! ; !(. !, ' 5!2, ' 3\*! ; !+\*&#&O+7!, &!(7#! ?==V@?==T!&O2\$%) #!+\*&\*&!\*! (7#!bX!CJQWQ!C?=>GG6!, ' 1!(7#!2, ' 3\*! ; !+\*&#&!, ' 1!#. ' . ) \*+!&-. : 1. : ' !\*! X+, ' 1\*!, B\*, ' !+. O' (%#&!. B#%! (7#!\$#%. 1!>aa=@aa>!CX, ' 1, -!?==RG6!E' ! (7#!. (7#!%7, ' 16!-\*HO\*1\*(5!%&3! CPD!XLG!, &) #, &O%#1!25!(7#!1#\$. &\*(-. , ' !%, (\*. !7, &!, ' !\*!&\*; '\*' /+, ' (!#/#+(! . ' !2, ' 3&4!\$%. /\*(, 2\*-\*(5!\*. !. 0%&!, ) \$-#8!!

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97#!+. &(\*. !CQE X9WeQG6! 1#/!\* #1!, &! (. , -!. \$#%, (\*! ; !#K\$#&#&\_! (. , -!\*!+. ) #! : 7\*+7!\*&!, ' ! \*! 1+, (. %. /!) , ' , ; #) #' (!#//\*#'+5!7, 1!, !&; '\*' /+, ' (!, ' 1!#; , (\*B#!%#-, (\*. ' &7\*\$!(!. 12, ' 3&4!\$%. /\*(, 2\*-\*(58! E0%#&O-(!\*&!) \*-, %!. (!7#%#&O-(&!%#%. (%#1!25!U. 11, %1#!(!, -!C?=>AG6!F#(\*, !#(!, -!C?=>AG!, ' 1![. //], ' !

C?=>G8!!

!

97#!#B#%, ; #!%, (\*. !CP! \G! 7, 1!, !' #; , (\*B#!, ' 1!&; '\*' /+, ' (!#/#+(! . ' !1DEF!, (!7#!>=C!&; '\*' /+, ' +#!-#B#-! 20(!\*!&\*! &\*; '\*' /+, ' (!\*! (7#!DEFF!) . 1#-!. B#%! (7#!\$#%. 1!0' 1#%#&B\*: 8!E0%#&O-(!&7. : &(7, (!10%' ; ! (7#!\$#%. 1!, !7\*; 7#%#&B#%, ; #!%, (\*. !. %+, \$(\*, !-%, (\*. !#, 1&!. !. : #&%\$. /\*(, 2\*-\*(56!, &!\*! [. //], ' !C?=>G!, ' ! 1! 9. \$, 3!, ' 1! 9, -O! C?=>VG8! 97\*&!+. 0-1! 2#! 10#! (. ! (7#! #/#+(! . ! (7#! ' #: !^, &#! F++,. %1!+, \$\*(, !-%#HO\*%#) #' (&!W(+. , ' (%, &(&!: \*(7!U. 11, %1#!(!, -!C?=>RG!: 7. !O; ; #&(! (7, (!7\*; 7#%+, \$\*(, !-%, (\*. &!, --. : ! 2, ' 3&!, %#, (#%-#K2\*-\*(5!\*(!, 3\*! ; !, 1B, ' (, ; #!. !' #: !20&\*#&!. \$\$%. %O' \*(&!: 7\*+7!, --. : &!/\_. %\*) \$%. B#1! \$%. /\*(, 2\*-\*(58!!

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W!. 0%#&(\*), (\*. ' &6! 1\*B#%&\*/\*+, (\*. ' !CYINXWUG!) #, &O%#1!25!'. ' @' (#%#&(!\*!+. ) #\_%; %. &&!%#B#&O#! 7, &!, ! \$!. &\*(\*B#!, ' 1!&; '\*' /+, ' (!#/#+(! . ' !2. (7! DEFF!, ' !1 DEF! 8! U. 11, %1#!(!, -!C?=>AG! \*! !-! #! : \* (7! (7\*&O; ; #&(!1!(7, (!2, ' 3&!: 7\*+7!/. +O&#1!). %#!. ' !' . ' @%, 1\*(. , -!-\*! #&!. /!20&\*#&!. %%#!) . %%!\$. /\*(, 2-#!. ' !, B#%, ; #! X) \*-, %5! f#(\*, !#(!, -!C?=>AG! /. O' 1! (7, (!20&\*#&!. 1\*B#%&\*/\*+, (\*. ' !7, 1!, !\$. &\*(\*B#!, ' 1! &\*; '\*' /+, ' (!#/#+(! . ' !2, ' 3&4!\$%. /\*(, 2\*-\*(58!

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Q. ' +#%\*! ; ! (7#!2, ' 3\*! ; !&+!. %!+&#1\*! /, +!. %&6! (7#!2, ' 3\*! ; !+\*&\*&! C^QD!W!X!B, %\*, 2-#!&!#; , (\*B#!, ' 1! &\*; '\*' /+, ' (!, &!, !1#(%#) \*!, ' (!. /!2, ' 3&4!\$%. /\*(, 2\*-\*(5!, &) #, &O%#1!25!DEFF!, ' !1DEF! 6!: 7\*+7!\*&!. 7, (! #! K#\$(#(18!F&!. (#16!(7#!^QD!W!X!B, %\*, 2-#!&!, !(\*) #!10) ) 5!B, %\*, 2-#!: 7\*+7!\*&!. ' !#10%\*! ; !+\*&\*&!\$#%. 1&!, ' !1!. (7#%: \*#!#) #!. 8! [.. : #B#%. 0%#&O-(!!. % (7#!^QD!W!X!B, %\*, 2-#!&!. ' (%, !5!(!. !. ) #!. !/ (7#!%#&O-(!\*&!) (7#!%#&#, %+7!-\*#(%, (0%#!. ' !2, ' 3!\$. /\*(, 2\*-\*(56!&O+7!, &!. 0]; , %. 0!#(!, -!C?=>TG!, ' 1!j \*. , !C?=>AG6!: 7#%#! (7#5!\*! 1\*+, (#1!(7, (!7#!\*!, ' +\*, -!+\*&\*&!7, 1!-\*) \*(#1#/#+(&!. ' !2, ' 3&6!#&#\*, -5!1. ) #&(\*+12, ' 3&\*! (7#! &#&\*/\*+!. O' (%#&!. ' +#%# #18!!

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97#!+. ) \$#(\*. ' !) #, &O%#!P#%#%W 1#K!CPWeYIj G6!, &!, !\$. K5!(!. !) , %3#(!\$. : #%! 7, 1!, !\$. &(\*B#!, ' 1! &\*; '\*' /+, ' (!#/#+(! . ' !1DEF! 5#(! (7#!%#!: , &!, ' !\*! &\*; '\*' /+, ' (!#/#+(! . ' !1DEF! 8! 97\*&!&O; ; #&(&(! (7, (! 7\*-# 2, ' 3&! : #%!, 2-#! (!. !\*! +&#, &#! (7#!% DEFF!. ' !, ++. O' (!. /! ; %#, (#%!) , %3#(! \$. : #%!, ++. %1\*! ; ! (!. ! (7#! !

2, ' 3&4! \$.% /\*(, 2\*-\*(5! . B#%!(7#!#) \$\*%\*+, !, ' , -5&\*&! \$#%\*. 18! U%. : (7!\*! (7#!#+. ' . ) 5!&7. 0-1!%#&O-(!\*! , ' ! \*! +%#, &%!\*! 2, ' 3&4! \$.% /\*(, 2\*-\*(5!, &! &O; ; #&( #1!25! L. %5(. : &3\*! C?=>TG!, ' 1! f#(%\*, !#(!, -! C?=>AG6!, ' 1! (7#!



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P. , ' @(. @B, -0#!) #, &0%#&!CP9\!, ' 1!P9\QFFG!%#&(%+(!7#!2. %%. : \*' ; !+, \$, +\*(5!. /!+0&(. ) #%%!, &!(7#5!-\*) \*(!7#!, ) . O' (!. /!/O' 1&!(7, (!+, '!2#!-#' (!%#-, (\*B#!(. !(7#!B, -0#!. /!(7#!, &&#(8!Y9W 7, &!, !1\*%#+(!#/#+(!. ' !+0&(. ) #%%4!, 2\*-\*(5!(. !2. %%. : 6!, &!(7#!Y9W%, (\*.!\*&!1#(#%) \*\* #1!25!\*+. ) #!-#B#!, ' 1!1#2(!. O(&, ' 1\*'; 6!, ' 1!(70&!: \*--!7, B#!, '!#/#+(!. '!2, ' 3&4!, 2\*-\*(5!(. !-#' 1!(. !7\*; 7-5!-#B#%, ; #1!+0&(. ) #%%8!X\*) \*-, %56!-\*) \*(&!.' !1. ) #&(\*+!+0%#'+5!-. , ' &!C

^#/.%#! 1\*&+0&&\*! ;! (7#! ) , +%. \$%O1#' (\*, ! \*! &(%O) #' ( &! %#&O-( &! &#\$, %, (#-5! / . %! #) #%; \*! ;! ) , %3#( !  
#+. ' . ) \*#&! CINIG! , ' 1! , 1B, ' +#1! +. O' (%#&! CFY\G6! : #! /\*&(! 1\*&+0&&! (7#! DEFF!, ' 1! DEF!! ) , \*! !  
#&(\*), (\*. ' !) . 1#-8! 9, 2-#! <! 2#-. : ! &7. : &! (7#! &O) ) , %5! %#&O-( &! . /! (7#! 2, ' 3&4! \$%. /\*(, 2\*-\*(5!) . 1#-8! !  
) #, &O%#1!25!DEFF!, ' 1!DEF!!C: \*(7!2, ' 3!-#B#-!/\*K#1!#/#+(&G!/ . %! (7#! \$%\*. 1!?=!=@?=>A8! " #!&O; ; #&(!  
(7, (! (7#&#!%#&O-( &! , %#!(7#) &#-B#&!, !+. ' (%\*20(\*. ' !(. ! (7#! -\*(#, (0%#! . ' !2, ' 3! \$. /\*(, 2\*-\*(5! &\*! +#!) . &(!  
&(O1\*&!+\*(#1!\*!X#+(\*. ' !A!, %#!2, ' 3&!/%. ) !\$#+/\*+!/ . %!%#; \*. ' &6!&) , --!; %. O\$&!. /!+. O' (%#&!. %! \*! 1\*B\*10, -!  
+. O' (%\*#88!  
!  
) )



, ' 1!UYf!;%. : (7!CDUYfUD" G!, %#!\$. &\*(^B#!, ' 1!&; ' \*/\*, ' (!

3&"85)X()G&'%.>%0/5-\$1&8)1-\$%0<5-\$#)%5#08\$#)6.%)5<5%71-7)<&%95\$)5'.-.<15#)&-/)&/:&-`5/)  
'.0-\$%15#)6.%)\$45)>5%./)2KKKR\*C)

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) D<5%71-7)<&%95\$)5'.-.<15#)

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\*! 9,2

3&"85)Y()U57%5##1. -)5#08\$#)6. %%5\$0%-). -)&: 5%&75)&#5\$#)JUS! ! M&- /)%5\$0%-). -)&: 5%&75)5V01\$=)  
JUS! D) /5>5-/5-\$: &%1&"85)"&#5/). -)"&-9)\$=>5#)6. %%45)>5%. /)2KKR2K\*C)J&88)' . 0-\$%15#M

!

X#+(. %	U5\$&18)&- /)A. -#0<5%)N&-9#)	[ -1: 5%#&8)N&-9#)
@5>5-/5-\$: &%1&"85! !	US! ! ) ?&-5\\$)SP;)	US! D) US! ! ) US! D)

&; ' /\*+, ' (! %#-, (\*. ' &7\*\$! 2#(: ##! -#B#! . /! -HO\*1\*(5! C-., '\_1#\$&(\*(! %, (\*. G!, ' 1! 2, ' 3&! \$%. /\*(, 2\*-\*(58! E' !  
 \*! (#%#&(! \*&! (7#! ' #; , (\*B#! , ' 1! &\*; ' /\*+, ' (! #//#+(! . /! (7#! P#%' #%% W 1#K! : 7\*+7! &O; ; #&(&! (7, (! %#(\*, \*-!, ' 1!  
 +. ' &O) #%%2, ' 3&! %#! O', 2-#!(. !\* +%, &%\$!. /\*(12, &#1!. ' !(7#%!) , %3#(!\$. : #%%!97\*&!%#&O-(!+. ' (%&(&: \*(7!  
 (7#! -\*(#%, (0%#6!: 7#%#! \*(! \*&! #K\$#+(#1!(7, (! (7#! P#%' #%% W 1#K! 7, &!, !\$. &(\*B#! , ' 1! &\*; ' /\*+, ' (! #//#+(! . ' !  
 \$%. /\*(&!97#!%, (#!. /!\* /-, (\*. ' !7, &!, !\$. &(\*B#! , ' 1! &\*; ' /\*+, ' (! #//#+(!. ' !DEFF!. ' -58!  
 !  
 J. %! O' \*B#%&, -!2, ' 3&6)(7#!DEFF!, ' 1!DEF!!) . 1#-!%#&O-(&!, %#!(7#!&, ) #!, &!/ . %!(7#!%#(\*, \*-!, ' 1!+. ' &O) #%%  
 2, ' 3&! \*! %#&\$#+(! (. !2, ' 3! &\*]#! CPeXh! 6! '#; , (\*B#G! +%#1\*(! %\*&3! QDwXL6! '#; , (\*B#G!, ' 1!) , ' ; #) #' (!  
 #///\*#'+5! COEX9WeQ6! '#; , (\*B#G! W! , 11\*(\*. ' 6! 1\*B#%&\*/+, (\*. ' !CYW\XWUG!, ' 1! (7#!%, (#!. /!\* /-, (\*. ' !7, 1!, !  
 \$. &(\*B#! , ' 1! &\*; ' /\*+, ' (! #//#+(!. ' !DEFF!, ' 1!DEF!!: 7\*+7!\*&+!. ' \*&(&#'( !: \*(7!(7#!%#&O-(!. /!(7#!2, &#-\*! #!  
 ) . 1#-! C9, 2-#! RG8! 97#! 2, ' 3\*'; ! +%\*&\*& C^QDW\XWUG! B, %\*, 2-#! +. #///\*#'( ! &\*; ' ! \*! #; , (\*B#! , ' 1! &\*; ' /\*+, ' (!  
 &O; ; #&(\*! ; !(7, (! (7#!?==V@?==T!/\*', ' +\*, -!+%\*&\*&!, //#+(#1!O' \*B#%&, -!2, ' 3&) . %!(7, ' !%#(\*, \*-!, ' 1!+. ' &O) #%%  
 2, ' 3&!P\*HO\*1\*(5!\*&3!CPDW\XWUG! 7, 1!, !\$. &(\*B#! , ' 1! &\*; ' /\*+, ' (! #//#+(!. ' !DEFF!. ' -56!&\*) \*-, %(. !L. %5(. : &3!C?  
 ==>TG6!: 7. !. O' 1!(7, (! -HO\*1\*(5!7, &!. &(\*B#! , ' 1! &\*; ' /\*+, ' (! #//#+(!. ' !2, ' 3!\$. /\*(, 2\*-\*(5!CDEFFG!, /(7#!  
 (7#!?==V@?==T!/\*', ' +\*, -!+%\*&\*&!97#!P#%' #%% W 1#K! 7, &!, !\$. &(\*B#! , ' 1! &\*; ' /\*+, ' (! #//#+(!. ' !DEFF6!: 7\*#!  
 UYf!; %: (7!7, &!, !\$. &(\*B#! , ' 1! &\*; ' /\*+, ' (! #//#+(!. ' !DEF!!  
 !

W !(%#) !. /!(7#!) , +%. \$%01#'\* , -!\*&(%O) #' (&!&#!9, 2-#!a!2#-. : !!(7, (! (7#!#/#+(!. /!  
 ) , +%. \$%01#'\* , -!\*&(%O) #' (&!. ' !O' \*B#%&, -!2, ' 3&! , %#!) . &(! \*! !-\* #! : \*(7!(7#!%#&O-(&!. /!(7#!

3&"85)\.(G&'%. >%0/5-\$1&8)1-#\$%0<5-\$#)%5#08\$#"5/). -)"&-9)\$=>5#)6. %)\$45)>5%. /)2KKKR

#//#+(\*B#' #&&! . /!) , +%. \$%01#' (\*, -\$.. -+5!\*! %#10+\*! ; !/\*' , ' +\*, -!&5&(# !\*) 2, -, ' +#&!, &!) #, &0%#1!25!(7#!  
 +%#1\*(@(. @UYf!; , \$!, ' 1!+%#1\*(6!O&\*! ; !(7#!&, ) #!WNJ!1, (, &#(!. /!) , +%. \$%01#' (\*, -!\*! &(%O) #' (&!, ' 1!(\*) #!  
 \$#%\*. 16! ' , ) #-5! Y, B\*&! #(!, -! C?=>VG! Q, %%#%, &! #(!, -! C?=>TG! Q#%O((! #(!, -! C?=>VG! , ' 1! Q-, #&&#' &! #(!, -!  
 C?=>AG! C'' #!, 2&(% , +(! /%). ) ! (7#\*% #&O-(&!. /%. 7. O&#! \$%\*+#! : 7\*+7! \*&! -#&&! +- . &#-5! -\*' 3#1! (. ! 2, ' 3!  
 2#7, B\*. O%8G!Y, B\*&! #(!, -! C?=>VG! O&#1!(7#!+%#1\*(@(. @UYf!; , \$!, &!(7#!(, %; #(!B, %\*, 2-#6!Q, %%#%, &! #(!, -! C?=>TG!  
 O&#1!(7#!; %. : (7!%, (#!. /!%#, -!7. O&#7. -1!+%#1\*(6!(7#!Q#%O((!#(!, -!: . %3!/ . +O&#1!. ' !(7#!; %. : (7!. /!%#, -!  
 +%#1\*(!; %. : (7!\*\*! (7#!+. O' (%5! , -(7. O; 7!(7#5!' . (#1!(7, (!#/#+(&!: #%%! ; %#, (#%/ . %! 7. O&#7. -1!+%#1\*(8!  
 Q-, #&&#' &!#(!, -! C?=>AG!-. 3#1!, (!\*\* 1\*B\*10, -!2, ' 3!, &#(!; %. : (78!Q, %%#%, &#(!, -! C?=>TG!+. B#%#1!, 1B, ' +#1!  
 +. O' (%\*#&! . ' -56!Q#%O((!#(!, -! C?=>VG! Y, B\*&! #(!, -! C?=>VG! , ' 1! Q-, #&&#' &!#(!, -! C?=>AG! 7, 1!, !) 0+7!: \*1#%  
 &, ) \$#!. /!2. (7!, 1B, ' +#1!, ' 1!#) #%; \*'; \_1#B#-. \$\*! ; !+. O' (%\*#&8!! )  
!

! "#\$%& ()&\*+, , "-. &/#\$%&01&/2%&-%3+\$3&01&/2%&%11%4/3&01&, "4-05-+6%7/8\$\$50\$84. &07##"793:85-018/"#\$\$/. &

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





78&9+/#E:#M8,1%C1' 6+\*)48%#\*()1' N+\*)(#1+(‘ 9)(#D4)-#,%' \*)12#345+6#+33+, )(#3%1#)-+#C+14%6#FFFF6EF/H#



78&9+/#H:\$+;1+((4%\*#1+'9)(#3%1#1+')'1\*#%\*#8<+18;+#8((+)(#\$>??@#8\*6#1+')'1\*#%\*#8<+18;+#+A'4)2#

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