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

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

!

! "#$%&#'()*+$, +(-#'.(/0$12$3*'(.$ $ $ $ $$ $$45'1)6&#(#' 7 *89:#;8$$$
<#9*'/&#+/$12$3.0)"1=1>0?$@#*=/"?$*+;$A#+;#'$ $ $ $ $ $$$$$$$$$$
B?$518=#-*';$;#$C*$!18'D E*8518'>$
FBGGF$3*'(.$$
H'*+)#$

$

! ! ! ! $ $
$ $$$$$$$$$$$$
$
$$ $
$
I(+)#$JGKL$ 3'12#..1'$12$3.0)"1=1>0

$
JGG\$D$JGKM$$,+(-#'.(/0$12$E*+(/15*$WO*+*;*X:$N(.(/(+>$3'12#..1'$
<#9*'/&#+/$12$3.0)"1=1>0$$

JGG\$D$JGKL$$,+(-#'.(/0$12$]*./$C1+;1+$W,RX:$I#+(1'$N(.(/(+>$H#==1^$V$N(.(/(+>$3'12#..1'$$
O#+/'#$21'$_*''*/(-#$Y#.#*')"$WO_YX$
$ $ $ $$$$$$$I)"11=12I1)(*=$I)(#+)#?$E#;(*$*+;$O8=/8'*=$I/8;(#.$

JGGLDJGKT$$,+(-#'.(/0$12$E(=*+$U()1))*$WS/*=0X:$3'12#..1'(*=$E#&5#'12A'*;8*/#$H*)8=/0$
I)"11=12A'*;8*/#$I/8;(#.$(+$/"#$@8&*+$I)(#+)#.$$
WI)81=*$;($<1//1'*/1$(+$I)(#+Z#$,&*+#X$$

JGGJDJGGB$$!"#$_#^$I)"11=?$_#^$`1'6$O(/0$W,I%X:$N(.(/(+>$3'12#..1'$
3.0)"1=1>0$<#9*'/&#+/$$$
O'1..D*991(+/#;a$]8>#+#$C*+>$O1==#>#?$3.0)"1=1>0$O1+)#+/'*/(1+?$*+;$C(/#'*/8'#$
+;$O8=/8'#$O1+)#+/'/(1+$

#!
!

JGJK$]'+./$]:$U1#.)"$3'(Z#12/"#$I1)(#/0$21'$O8=/8'*=$3.0)"1=1>0VA#.#==.)"*2/$2b'$R8=/8'D
9.0)"1=1>(#$

JGKM$$$ $H#==1^?$](+./#(+$O#+/#'$O"'1+1($WH'##$,+(-#'.(/0$U1#q(0$24&8&51=24,0+639.84$cm=BT -0.001 42 192
V$I/(2/8+>$3'#8c(.)"#'$R8=/8'5#.(/Z$V$E*QD3=*+)6D$+./(/8/#$21'$

JGKLDJGKB$$ N(.(/(+>$3'12#..1':$I8&&#'$I)"11=?$I)"11=12I1)(*=$I)(#+)#.$*+;$@8&*+(/(#.$*+;$I)"11=$12$C*+>8*>#?$!'*+.=*/(1+$*+;$C(/#'*'0$I/8;(#.?$,+(-#'.(/0$12$!*&9#'#?$H(+=*+;$WH*==$.#..(1+$JGKL?$I9'(+>$.#..(1+$JGKB?$I8&&#'$.#..(1+$JGKBX$

JGKJ$ N(.(/(+>$3'12#..1':$!"#$I^#;(."$O#+/#'$21'$E#&1'0$*+;$<#&#+/(*$Y#.#*')"$V$<#9*'/D&#+/$12$E#;()*=$*+;$@#*=/"$I)(#+)#.?$C(+619(+>$,+(-#'.(/0?$I^#;#+$WH*==$.#&#./#'X$

JGGF$ E*'(#$O8'(#$I#+(1'$Y#.#*')"$H#==1^:$]8'19#*+$,+(1+$Y#.#*')"$3'1>'*&$iE#&1'0V$E#&1('i$*/$/"#$,+(-#'.(/0$12$I"#22(#=;?$,R$WH*==$.#&#./#'X$

JGG\$ I#+(1'$N(.(/(+>$H#==1^:$<#9*'/&#+/$12$I1)(*=$%+/"'191=1>0?$,+(-#'.(/0$12$O*&5'(;>#?$,R$WI9'(+>$/#'&X$

JGGBDJGG[$ Y#.#*')"$H#==1^:$O#+/#'$21'$Y#.#*')"$1+$O8=/8'#?$<#-#=19&#+/?$*+;$];8)*/(1+j$I/#(+D"*';/$I)"11=$12$O8=/8'#?$];8)*/(1+?$*+;$@8&*+$<#-#=19&#+/?$_#^$`1'6$,+(-#'.(/0$WI9'(+>$.#..(1+.X$

JGGB$ N(.(/(+>$3'12#..1':$S+/#';(.)(9=(+*'0$A'*;8*/#$I)"11=12O1&&8+()*/(1+$I/8;(#.?$,+(D-#'.(/0$12$C(+619(+>?$I^#;#+$WH*==$.#&#./#'X$

KMMMDJGGG$ N(.(/(+>$3'12#..1':$,+(-#'.(/0$12$U'*.(=(*$W,+UX?$S+./(/8/#$12$3.0)"1=1>0$W%)*;#&()$0#*'X$

KMMMDJGGL$ %..1)(*/#;$I#+(1'$Y#.#*')"$H#==1^:$O#+/#'$21'$/"#$I/8;0$12$O8=/8'#?$P'*=(/0?$S&*>#'0?$

Rf"=#'$O#+/#'$12$I1)(1)8=/8'*=$3.0)"1=1>0$*+;$@(./1'()*=$%+/"'191=1>0h$Y8"'$,+(-#'D .(/0$U1)"8&?$A#'&*+0$

JGKB$ A'*+/?$!"#$,+(-#'.(/0$12$!*&9#'#n.$WH(+=*+;X$S+/#'+*/(1+*=$Y#.#*')"$3'1>'*&$

JGKB$$ A'*+/?$E#=1+$H18+;*/(1+?$_#^$`1'6$

JGKJ$ A'*+/?$!"#$I)(#+)#?$@8&*+(/(#.?$I1)(*=$I)(#+)#.?$*+;$E#;(*=$Y#.#*')"$H18+;*/(1+$12$ /"#$U*+6$12$I^#;#+$!#')#+/#+*'0$H18+;*/(1+?$I/1)6"1=&$WI^#;#+X$

JGGMDJGKK$$ A'*+/?$!"#$E*+(/15*$@#*=/"$Y#.#*')"$H18+;*/(1+?$o(++(9#>$WO*+*;*X$

JGG[DJGGM$ A'*+/?$!"#$I1)(*=$I)(#+)#.$*+;$@8&*+(/(#.$Y#.#*')"$O18+)(=$12$O*+*;*?$P//*^*$WO*+D *;*X$

JGGF$ A'*+/?$!"#$]8'19#*+$,+(1+p.$Y#.#*')"$H8+;.$E*'(#$O8'(#?$U'8..#=.$WE*'(#$O8'(#$I#+D (1'$Y#.#*')"$H#=1^."(9X$21'$Y#.#*')"$3'14#)/$*/$/"#$,+(-#'.(/0$12$I"#22(#=;$W,RX$$

JGG\$$ A'*+/?$S/*=(*+$_*/(1+*=$Y#.#*')"$O18+)(=WO_YX21'$*$Y#.#*')"$3'14#)/$*/$/"#$<#9*'/D &#+/12I1)(*=$%+/"'191=1>0?$,+(-#'.(/0$12$O*&5'(;>#W,RX

JGGB$ A'*+/?$_#^$`1'6$,+(-#'.(/0$Y#.#*')"$O"*==#+>#$H8+;$WY#.#*')"$9'14#)/$*/$/"#$<#9*'/D &#+/$12$%99=(#;$3.0)"1=1>0?$_#^$`1'6$,+(-#'.(/0X$

JGGB$$ A'*+/?$!"#$I^#;(."$_*/(1+*=$O18+)(=$21'$I1)(*=$Y#.#*')"$*+;$o1'6(+>$C(2#?$I/1)6D "1=&$WI^#;#+X$

JGGKDJGGJ$ A'*+/?$!"#$A#'&*+$_*/(1+*=$Y#.#*')"$%>#+)0$W<HAXVA#'&*+$H1'#(>+$P22()#$I9#)(*=$ H8+;.?$U1++?$21'$Y#.#*')"$(+$U'*Z(=$WA#'&*+0X$

KMMM$ A'*+/?$_*/(1+*=$U'*Z(=(*+$Y#.#*')"$O18+)(=$WO_3qX?$U'*.(=(*$WU'*Z(=X$

KMM[DKMMM$ H#=1^."(9?$!"#$_1'/"'19$H'0#$O#+/'#?$N()/1'(*$,+(-#'.(/0$!1'1+/1V,+(-#'.(/0$12$!1D '1+/1$W%)*;#&()$0#*'$KMM[DMMX$$

KMM\$D$KMM[$ A'*+/?$!"#$O*+*;*$O18+)(=$21'$/"#$%'/.?$P//*8.31439.84cmBT-0.0,+M[

KMMTDKMMB$$ A'*+/?$O1+.(>=(1$_*Z(1+*=#$;($Y()#')*$WO_YX?$Y1&#$g_*/(1+*=$Y#.#*')"$O18+)(=$12$S/*=0h$21'$*$'#.#*')"$9'14#)/$*/$!"#$,+(-#'.(/(#.12!8'(+$*+;$H=1'#+)#$WS/*=0X$

KMMGDKMMK$ A'*+/?$!"#$%8./'(*+$E(+(./'0$21'$I)(#+)#$*+;$Y#.#*')"?$N(#++*?$*+;$!"#$A#'&*+$S+D/#'+*/(1+*=$%)*;#&()$]Q)"*+>#$I#'-()#$W<%%<X?$U1++$

$

!

JGJT$$ o 1'6."19:$S+/#'+*/(1+*=$O1+2#'#+)#$*; +66+*4$#!A+**#6-!BCBD?$,+(-#'.(/0$12$!*&9#'#?$H(+=*+;$Wd8+#X!

JGJJ$ C#)/8'#rI#&(+*':$Y8"'$,+(-#'.(/0$U1)"8&?$A#'&*+0$W_1-#&5#'X$

JGJJ$ I8&&#'$O18'.#:$E*.*'06$,+(-#'.(/0$U'+1?$H*)8=/0$12$%'/.?$OZ#)"$Y#985=()$WI#9/#&D5#'X$

JGJG$ R1.#=#)6$I#&(+*'$1+$"4+/06&)4/!;+66+*&%&1.?$,+(-#'.(/0$12$H'#(58'>V<#8/.)"#$H1'D.)"8+>.>#&#(+.)"*2/$W<HAX$gA#'&*+$Y#.#*')"$H18+;*/(1+h$WH#5'8*'0X$

JGKM$ I#&(+*':$Y#.#*')"$>'189$94*#6+*56#2!3&1)4*4&)2!E(&*4&)-2$,+(-#'.(/0$12$P.=1?$_1'^*0$WP)/15#'X$

JGK\$ E*./#'$O=*..:$,+(-#'.(/0$12$E8.()$*+;$3#'21'&(+>$%'/.$E8+()"?$A#'&*+0$W<#)#&5#'X$

JGK\$ I8&&#'$O18'.#:$;+66+*4$#!>*5?4#-$WIS_IX?$,+(-#'.(/0$%*'"8.?$<#+&*'6$W%8>8./X$

JGK\$ o 1'6."19:$!"#$O#+/'#$21'$C*+>8*>#?$<(.)18'.#$*+;$O1&&8+()*/(1+?$R(+>n.$O1==#>#$C1+;1+?r!"#$O#+/'#$21'$_*''*/(-#$Y#.#*')"?$,+(-#'.(/0$12$]*./$C1+;1+?$WH#5'8*'0X$

JGKBrJGK\$

]9(./#&1=1>0$*+;$@#'&#+#8/().$W<(9*'/(&#+/1$;($]9(./#&1=1>(*$#;$]'&#+#8/()*$;#==*$H1'&*Z(1+#Xh$WI9'(+>$I#&#./#'.?$*++8*==0X$

JGKJ$ C#)/8'#$O18'.#:$, +(-#'.(/0$12$C(+6f9(+>V I/1)6"1=&?$ <#9*'/&#+/12 E#;()*=$*+;$@#*=/"$I)(#+#.?$I^#;#+$WH*==$.#&#./#'X$

JGKJ$ o 1'6."19:$!"#$%&#'()*+$, +(-#'.(/0$12$3*'(.r!"#$, +(-#'.(/0$12$3*'(.$<(;#'1/D3*'(.$F?$3'#DO1+2#'#+)#$o 1'6."19?$S+/#'+*/(1+*=$O1+2#'#+)#$s_*''*/(-#$E*//#'.t$WE*0X$

JGKJ$ o 1'6."19:$, +(-#'.(/0$12$C1+;1+?$_*/(1+*=$O#+/'#$21'$Y#.#*')"$E#/"1;.VS+./(/8/#12];8)*/(1+?$s_1-#==*t$E#/"1;1=1>0$9'1>'*&&#12/"#$])1+1&()$*+;$I1)(*=$I)(#+)#$Y#.#*')"$O18+)(=12A'#*/$U'(/*(+$W^(/"$E*'(*$S:$E#;-#;X$WE*')"X$

JGKK$ I#&(+*':$, +(-#'.(/0$12$!*'/8?$, +(-#'.(/0$12$!*==(++?$*+;$/"#$]./1+(*+$%)*;#&0$12$%'/.?$]./1+(*+$O#+/'#12]Q)#==#+)#$(+$O8=/8'*=$!"#1'0?$.91+.1'#;50/"#$] , $Y#.#*')"$3'1D>'*&&#?$U'8..#=.$Wd*+8*'0VH#5'8*'0$JGKKX$

JGKG$ C#)/8'#.ro 1'6."19:$O(/0$, +(-#'.(/0$12$_#^$`1'6?$A'*;8*/#$O#+/#'$WO , _`X$W%9'(=X$

JGKG$ I#&(+*':$, +(-#'.(/0$12$O*=>*'0?$<#9*'/&#+/$12$3.0)"1=1>0$WE*')"X$

JGG[$ I#&(+*':$Y8"'D , +(-#'.(/0$U1)"8&?$Y#.#*')"$I)"11=$@8&*+(/(#.$*+;$I1)(*=$I)(#+)#.$Wo (+/#'$.#&#./#'X$

JGG[$ I#&(+*':$, +(-#'.(/0$12$!8'(+?$<#9*'/&#+/12I1)(*=$I)(#+)#.$W<(9*'/(&#+/1$;($I)(#+Z#$I1)(*=(X$WI9'(+>$.#&#./#'X$

JGGF$ C#)/8'#ro 1'6."19:$_*/(1+*=$O#+/'#$21'$Y#.#*')"$E#/"1;.$12$/"#$])1+1&()$*+;$I1D)(*=$Y#.#*')"$O18+)(=$W]IYOX$12$A'#*/$U'(/*(+?$, +(-#'.(/0$12$I18/"*&9/1+$WI9'(+>$.#D&#./#'X$

JGGF$ C#)/8'#ro 1'6."19:$_*/(1+*=$O#+/'#$21'$Y#.#*')"$E#/"1;.$12$/"#$])1+1&()$*+;$I1D)(*=$Y#.#*')"$O18+)(=$W]IYOX$12$A'#*/$U'(/*(+?$, +(-#'.(/0$12$]*./$C1+;1+$WI9'(+>$.#D&#./#'X$

JGGF$ C#)/8'#$O18'.#:$, +(-#'.(/0$12$I"#22(#=;?$SOPII$O#+/'#12/"#$I1)(*=$I)(#+)#.$*+;$<#D9*'/&#+/12S+21'&*/(1+$I/8;(#.$WI9'(+>$.#&#./#'X$

JGG\$ o 1'6."19:$

JGGG$ I#&(+*':$, +(-#'.(/(#.12O1=1>+#?$U1++?$*+;$%*)"#+$WY o !@X?$d1(+/$Y#.#*')"$3'14#)/$ O#+/#'$gIHUh$*A#?4+!+)?!35%*56+%!3&((5)4/+*4&)*12/"#$A#'&*+$_*/(1+*=$Y#.#*')"$ %>#+)0$g<HAh?$%;-*+)#;$O18'.#a$=#/0)4F5#-!&8!G#(#(H#64)1$Wd8+#X$

KMMM$ C#)/8'#$O18'.#$ r $.#&(+*'.:$, +(-#'.(/0$12$U'*.(=(*$W , +UX?$U'*Z(=?$S+./(/8/#$12$3.0)"1=D 1>0$*+;$S+./(/8/#$12$%+/"'191=1>0$WH*==$I#&#./#'X$

KMMM$ o 1'6."19:$, +(-#'.(/0$12$O*&9(+*.VI*1$3u8=1?$U'*Z(=?$<#9*'/&#+/12]; 8)*/(1+$WH*==$ I#&#./#'X$

KMMBDJGGG$ C#)/8'#.$ r $ I#&(+*'.:$O*/"1=()$, +(-#'.(/0$12$ E(=*+$W , +(-#'.(/m$O*//1=()*$;#=$I*)'1$ O81'#X?$<#9*'/&#+/$12$3.0)"1=1>0$WH*==$.#&#./#'.$KMMB$*+;$KMM\j$KMMFDJGGG$.9'(+>$ I#&#./#'.X$$

KMM\$ C#)/8'#.$ r $I#&(+*':$, +(-#'.(/0$12$N(#++*?$S+./(/8/#$21'$!"#1'0$*+;$I1)(*=$I/8;(#.12 I)(#+)#$WI8&&#'$.#&#./#'X$

KMMB$$ C#)/8'#?$ I#&(+*'?$ r $ o 1'6."19:$ o #./9"*=(*+$O=(+()$21'$3.0)"(*/'0?$_#8'1=1>0?$3.0D)"1.1&*/()?$*+;$S+/#'+*=$E#;()(+#:$Ab/#'.=1"?$A#'&*+0$Wd8+#X$$

KMMLDJGGJ$ o 1'6."19.$^(/"$3"0.()(*+.?$3.0)"1=1>(./.?$*+;$3.0)"1/"#'*9(./.?$, +(-#'.(/0$@1.9(/*=$ S++.5'8)6$W%++8*==0?$P)/15#'$KMMLDGM?$d8+#$JGGGDGJX$

KMML$ I#&(+*':$, +(-#'.(/0$12$A#+#-*?$KL/"$%;-*+)#;$O18'.#12/"#$d#*+$3(*>#/$%')"(-#.$ WI#9/#&5#'X$

KMMJDKMM\$, +(-#'.(/0$12$PQ21';?$3"(=1.19"0$O#+/'#$

C#)/8'#$O=*..#.a!

)*+,+-.!)/*0!122"3!! 4567895:-.!;7!<+,=5+>-+9>!
?+9@8/:08>!)/*0!122"3!! 4567895:-.!;7!<+,=5+>-+9>!
)*+,+-.!)/*0!122#3!! 4567895:-.!;7!A@+:;>;B@.C!4;9+8:!4-5D+/>C!8,D!A>4 0 1T{$0q .3Td2 0 0 . 0 0 69=>)-1(.3T

JGKTD O1D1'>*+(Z#'?$*I#6%4)!*>. ('&-4+!&8!; +66+*4$#!A#?4/4)#2!U#'=(+$, +(-#'.(/v/.&#;(Z(+$O"'*'(/w$ Wd1(+/$E#;()*=$I)"11=12H'##$, +(-#'.(/0$U#'=(+$*+;$@8&51=;/$, +(-#'.(/0$U#'=(+X!

"F1#3!"#$$#%&'(!#)*!+,&)&+#,!-$#+%&+(!
"F1$3!./%($!%0(!1$#&)!&)23$45!"#$$#%&'(!#)*!3)*($6%#)*&)7!
"F1%3!"#$$#%&'(!-($6-(+%&'(6!
"F1&3!8($69):+()%($(*!; (*&+&)(!#)*!)#$$#%&'(!8$#<&6!
"F1'3!=9*4!)#$$#%&'(6!
"F1(3!>#)73#7(!#)*!3)*($6%#)*&)7!
"F123!; (%#-09$6!&)!; (*&+&)(!
"F""3!"#$$#%&'(6!&)!; (*&+&)(5!=(%?(()!/#+%!#)*!/&+%&9)!
"F"#3!@%9$&(6!/$9A!%0(!B(#,%0!C#$(!@46%(A6!

JGGFDJGKT$$ E#&5#'12/"#$C*+>8*>#?$@#*=/"?$*+;$$==+#..$Y#.#*')"$A'189$*/$/"#$, +(-#'.(/0$12$E*+D (/15*?$<#9*'/&#+/$12$3.0)"1=1>0$W o (++(9#>?$O*+*;*X$

KMM[

3*'(.$W , +(-#'.(/w$3*'(.$<#.)*'/#.$V$I1'51++#$3*'(.$O(/wX$
Y1&#$W , +(-#'.(/m$;($Y1&*$sC*$I*9(#+Z*tX$
!1'1+/1$W , +(-#'.(/0$12$!1'1+/1j$P+/*'(1$S+./(/8/#$21'$I/8;(#.$(+$];8)*/(1+X$$
!8'(+$W , +(-#'.(/m$;($!1'(+1X$
o (++(9#>$W , +(-#'.(/0$12$E*+(/15*X$
o 1')#./#'?$E*..:$WO=*'6$, +(-#'.(/0X$

"#$%&'(!'&)!*##+!,-%.-/!*#'%)!0-01-%!!

J5&L*I4&16+'0.<!J)!:)*#6)+*4&)+%!+)?!:)*#6?4-/4'%4)+6.!M&56)*+%N!*I*>#?$, R$WJGGJDJGGFX$
J5&H4&16+84#N!G4/#6/0#2!'6+*4/0#2!#-'#64#)0#:$E(&#.(.?$E(=*+?$S/*=0$WJGKMDX
*3&>A&!7!3&('+6+*4$#!>*5?4#-!4)!A&?#6)4-(!L!G4$4-*+!?#%!3#)*6&!>*5?4!J6*4!?#%%+!A&?#6)4*P!*
gd18'+*=12/"#$O#+/'#$21'$I/8;(#.$1+$/"#$%'/.12E1;#'+(.&h:$, +(-#'.(/0$12$!8'(+?$S/*=0$
WJGK\D$X$
*36#-/#)?&!gQ6&@4)1!5'*h$WU116$.#'(#.X:$];(Z(1+($d8+(1'?$U#'>*&1?$S/*=0$WJGKTDX:$*
*/5%*56+!R!'-./0S<!M&56)+%!&8!35%*56+%!,-./0&%&1.N!*

- . / $01#2(31+#.4(56*,#6+*$16+&(!167,#,6%, *The a ie ie of na a i e medicine,*(8169
.16(: ; $6<=0(!1&&,<,(816.164(>"#?+ ' (@6$/ ,#0$*24(A#6*2(!1&&,<,(>"B&$6(+6.(*?,(
C12+&(!1&&,<,(17(D"#<,160(17(5#,&+6.E(:FGFH9EI(($
%; -(.1'0$U1*';?$*3#)*6#!8&6!;* +66+*4$#!G#-#+6/0*?$, +(-#'.(/0$12$]*./$C1+;1+?$, R$WJGGFDJGJKX:$
%; -(.1'0$U1*';?$_#8#$A#.#==.)"*2/$2b'$3.0)"1=1>(#$g_#^$%..1)(*/(1+$12$3.0)"1=1>0

#=6+)-8#6-ℕ!M&56)+%!8&6!94#6+6.!+)?!35%*56+%!>*5?4#-ℕ!:)*#6)+*4&)+%!3#)*6#!8&6!*0#!>*5?.!&8!35%*56#!+*!c5##)!A+6.2!*, +(-#'.(/0$12$C1+;1+?!*, R

*E56&'#+)!>/4#)/#!_&5)?+*4&)!]E>_^!*

Q#6(+)!J/+?#(4/!E`/0+)1#!>#6$4/#!]"JJ"^!

!

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GH	I ; ; J>!8 , D! ? ; , ; =*8B@>!!!!BH!1$!
GGH	KD+-/D!L ; :5 0 />! ; 7!4B/9+8:!G>>5/>!!!!BH!1%!
GGGH	M , :+ , /!N+D/ ; >!8 , D!B ; D98>->!!!BH!1%!
GLH	A8B/*>!8 , D!E@8B-/*>!!!!BH!1&!
LH	O/ . , ; -/>C!G , N+-/D!) 8:J>!8 , D! PDD*/>>/>!Q4/ : /9-+ ; , !>+ , 9/!122$R!!!BH!#$!
LGH!!	A*/>/ , -8-+ ; , >!8-!E ; , 7/*/ , 9/>!8 , D! P98D/ 0 +9! ? / /-+ , =>!!!!BH!$%(

!

!

U'1)6&#(#'?$d#+.$WJGJJ35*+;$#U116X:$*E60g0%#)!+%-!9#H#)-8&6 ($g_*''*/(-#$*.$21'&$12$=(2#h:$A(#c#+a$
3.0)"1.1Z(*=$N#'=*>:$

U'1)6&#(#'?$d#+.$WJGKB$@5$*+;$#U116j

A(1';*+1$U'8+1a$]9(./#&1=1>0$*+;$9"(=1.19"0$12$+*/8'#$(+$Y#+*(..*+)#$&*/#'(*=(.&h:$H'*+6D 28'/$ r $_#^$`1'6a$O*&98.$N#'=*>:$

U'1)6&#(#'?$d#+.$W];:$1+$5#"'*=2$12$/"#$ o b'//#&5#'>(.)"#$I/*/#z.$!"#*/#'$I/8//>*'/X:$WKMFMX:$ *f 6'0#5-!7! A+*#64+%4#)*:$I/8//>*'/a$ o b'//#&5#'>(.)"#$I/*/#z.$!"#*/#':$

U'1)6&#(#'?$d#+.$W];:X$WKMF\X:$*T+)-!W#6)#6!T#)0#<!A5-4U!5)?!,&%4*4U2!>/0648*#)!5)?!Q#-'6g/0#!ijkk7 ijnk!gE8.()$*+;$91=(/().a$O1==#)/#;$^'(/(+>.$*+;$)1+-#'.*/(1+.$KMBBDKMFBhN!E8+()"a$<#8/.)"#'$!*.)"#+58)"$N#'=*>:$$

,I$#;(/(1+$WKM[JXa!T+)-!W#6)#6!T#)0#<!A5-4/!+)?!'&%4*4/-<!3&%%#/*#?!

!

;<;=!

,6&16+ (!H&&U%#*$P)/15#'$T?$JGKB?$U#'=(+$9'#&(#'$50$/"#$R1+Z#'/"*8.$P')"#./'*$*/$R1+Z#'/"*8.$U#'D =(+:$gY#-(.#;$*+;$#Q/#+;#;$-#'.(1+12/"#$JGKL$#..*0h:$

$

;<?=!

Wd#+.$U'1)6&#(#'$*+;$@*++*$E#'#/14*X:$,+;#'./*+;(+>$+*''*/(-#$"#'&#+#8/().N!>*&6.@&6%?-<!J!M&567)+%!8&6!;+66+*4$#!I/8;(#.$sWJX?$KDJF:$

_*''*/(-#$*.$)8=/8'*=$9'*)/()#:$S+$O:$C#8+>$*+;$U:$I/'##/$W];.:X?$=0#$G&5*%#?1#!3&('+)4&)!*&!E)1%4-0! 9+)15+1#!>*5?4#-$W99:$TTTDTLTX:$C1+;1+a$Y18/=#;>#:$

WN#'1+()*$P'+*>"(?$d#+.$U'1)6&#(#'?$*+;$S=*'(*$A'*ZZ*+(X:$]+"*+)(+>$.1)(*=$)1>+(/(1+$50$/'*(+(+>$

WC8(>(*$I(&1+*$I()*?$d#+.$U'1)6&#(#'?$ r $C*8'*$%=#+($I#./(/1X:$C*$)1./'8Z(1+#$;#==n(;#+/(/*n$+*''*/(-*$ +#=#$/'*+.(Z(1+($5(1>'*2()"#$+1'&*/(-#$#$+1+$+1'&*/(-#a$%+*=(.($;#=*$./'8//8'*$/#&91'*=#$g_*''*/(-#$ (;#+/(/0$)1+./'8)/(1+$(+$+1'&*/(-#$*+;$+1+$+1'&*/(-#$5(1>'*9"()*=$/'*+.(/(1+.h:$, -4/&%&14+!-/&%+-*4/+2! j$WKX?$KBDTF:$

!"#$*8/15(1>'*9"()*=$>=*+)#:$S+$=0#!iB*0!A5)4/0!I4#))+%#!7!:)*#6)+*4&)+%!_#-*4$+%!8&6!3&)*#(' &6+6.! f'#6+!+)?!A5-4/!=0#+*#62! J'64%7A+.!BCiC?$3'1>'*&$U116$W99:$TGDTBX:$E8+()"a$E8+()"$U(#++*=#?$ %9'(=DE*0$JGKG:$

$

;<<@!

Wd#+.$U'1)6&#(#'$*+;$<*-(;$Y:$P=.1+X:$!"#$=(/#'*)0$#9(./#&#a$H'1&$S++(.$/1$<#''(;*:$S+$<:$Y:$P=.1+$ *+;$_:$!1''*+)#$W];.:X?$=0#!3+(H64?1#!T+)?H&&U!&8!94*#6+/./W99:$TDJKX:$O*&5'(;>#a$O*&5'(;>#$,+(D -#'.(/0$3'#..:$

Y#*)"(+>$21'$&#*+(+>a$@8&*+$*>#+)0$*+;$/"#$+*''*/(-#$(&*>(+*/(1+:$=0#&6.!+)?!,-./0&%&1.2!ij$WJX?$ JKTDJTT:$

I/1'(#.$/1$'#&#&5#'a$_*''*/(-#$*+;$/"#$/(&#12&#&1'0:$>*&6.@&6%?-<!J!M&56)+%!&8!;+66+*4$#!>*5?4#-2! iWKX?$KKFDKTJ:$

!

;<<A!

C*+>8*>#?$#Q9#'(#+)#?$*+;$/"#$s/'*8&*/()$>*9ta$@1^$/1$/*=6$*518/$MVKK}$S+$C:DO:$@0;w+$*+;$d:$U'1)6D &#(#'$W];.:X?!T#+%*02!:%%)#--!+)?!35%*56#<!I6&U#)!;+66+*4$#$W99:$K\DTBX:$_#^$`1'6a$Y18/=#;>#:$

WC*'.DO"'(./#'$@0;w+$*+;$d:$U'1)6&#(#'X:$H'1&$/"#$'#/1=;$/1$/"#$9#'21'&#;$./1'0a$S+/'1;8)/(1+:$S+$C:D O:$@0;w+$ r $d:$U'1)6&#(#'$W];.:X?!T#+%*02!:%%)#--!+)?!35%*56#<!I6&U#)!;+66+*4$#-$W99:$KDKBX:$_#^$ `1'6a$Y18/=#;>#:$

WE*'(*$S:$E#;-#;$*+;$d#+.$U'1)6&#(#'X$!*=6(+>$*518/$/"#$8+/"(+6*5=#a$_#8'1/'*8&*$*+;$/"#$t)*/*D ./'19"()$'#*)/(1+:t$S+$C:DO:$@0;w+$ r $d:$U'1)6&#(#'$W];.:X?!T#+%*02!:%%)#--!+)?!35%*56#<!I6&U#)!;+66+7 *4$#-!W99:$BLDFJX:$_#^$`1'6a$Y18/=#;>#:$

%8./#'=(/Zn.$&#&1'0:$,+6*4+%!J)-@#6-<!M&56)+%!&8!94*#6+*56#!+)?!*0#!T4-*&6.!&8!:?#+-2!s!WJX?$TLFDT\F:$

W<*+(#=*$3#/'#=(?$I/#-#$o "(//*6#'?$*+;$d#+.$U'1)6&#(#'X:$%8/1!191>'*9"0a$o "*/$)*+$9"0.()*=$&#&#+D /1.$/#=.$8.$*518/$;(>(/*=$&#&1'(#.}$(=6)1(#)1(&)2q0!.6#00(-2)K3)0-42(8)(/#(8)(%)-142(8)1(%)-1(((+)J2(T4)(/#(8)-1((+)-1

""!
!

E 8.()?$;'#*&$*+;$'#*=(/0:$S+a$I0&9"1+0$JGGF:$];:50!"#$!1601$I0&9"1+0$P')"#./'*$W99:$KJDKBX:$
!1601a$!"#$!1601$I0&9"1+0$E 8.()$385=(."#':$!'*+.=*/#;$(+/1$d*9*+#.#50E(;1'($!*6*.#:$

!

;<<C!!

"#!
!

Y#&#&5#'(+>$*+;$21'>#//(+>a$_*''*/(-#$*.$)8=/8'*=$&#&1'0:$*35%*56#!+)?!,-./0&%&1.2!l!]i^!gI9#)(*=$S..8#a$i_*''*/(-#$*+;$O8=/8'*=$E#&1'0ih?$KBDLL:$W385=(."#'n.$)18+/$JGJGa$s E1./$)(/#;t$.(+)#$/"#$d18'D+*=n.$#./*5=(."&#+/$(+$KMMBX:$

I#*')"(+>$21'$)8=/8'*=$&#&1'0:$$+/'1;8)/(1+$/1$/"#$I9#)(*=$$..8#:$*35%*56#!+)?!,-./0&%&1.2!l!]i^!gI9#)(*=$S..8#a$i_*''*/(-#$*+;$O8=/8'*=$E#&1'0ih?$BDKLN!$

W{($o*+>$*+;$d#+.$U'1)6&#(#'X:$%8/15(1>'*9"()*=$'#&#&5#'(+>$*.$)8=/8'*=$9'*)/()#a$,+;#'./*+;(+>$/"#$(+/#'9=*0$5#/^##+$&#&1'0?$.#=2?$*+;$)8=/8'#:$*35%*56#!+)?!,-./0&%&1.2!l!]i^$gI9#)(*=$$..8#$i_*''*D/(-#$*+;$O8=/8'*=$E#&1'0ih?$LBD\L:$$

3*=(&.#./.a$P+$9*(+/(+>.50Y*=9"$!8'/8''1:$G+%'0!=56*566&!h=56*566&0-!J6*!Q+%%#6.ha^^^:'*=9"/8'D/8''1:)1&V:$

!

;<<?!

!#Q/.$*+;$1/"#'$.0&51=()$.9*)#.:$A4)?2!35%*56#2!+)?!J/*4$4*.2!l!WTX?$JKBDJTK:$

S;#+/(/0N!E)/./%&'#?4+!&8!948#!W64*4)1<!J5*&H4&16+'04/+%!+)?!I4&16+'04/+%!_&6(-2!a&%N!iN!];:$50:$E:$d1=0$W99:$LBBDLBFX:$C1+;1+rO"()*>1a$H(/Z'10$<#*'51'+:!

!(&#N!E)/./%&'#?4+!&8!948#!W64*4)1<!J5*&H4&16+'04/+%!+)?!I4&16+'04/+%!_&6(-2!a&%N!BN!];:$50:$E:$d1=0$W99:$[F\D[F[X:$C1+;1+rO"()*>1a$H(/Z'10$<#*'51'+:$

H'1&$/"#$#+;$/1$/"#$5#>(++(+>a$Y#/'1.9#)/(-#$/#=#1=1>0$(+$*8/15(1>'*9"0:$$+$d:$U'1)6&#(#'$*+;$<:$0(639.84cmBT-0.118

<#'$+*''*/(-#$E1;8.$g!"#$+*''*/(-#$&1;#h:$,-./0&%&14#!4)!e-*#66#4/0!g,-./0&%&1.!4)!J5-*64+

! "#$'(.#$12$/"#$=(/#'*)0$#9(./#&#:$*G#?#84)4)1!94*#6+/.2!>'64)1!ijjl2![DKF?$*+;$(+$*G#?#84)4)1!94*#6+/.!p!f)%4)#!g"//9a$=.+:1(.#:8/1'1+/1:)*VY#;#2(+(+>C(/#'*)0h?$I9'(+>$KMM[:$

o 1';.$*.$-1()#.:$*G#?#84)4)1!94*#6+/.2!>'64)1!ijjl?$JGDJKw!*+;$(+$*G#?#84)4)1!94*#6+/.!p!f)%4)#!g"//9a$=.+:1(.#:$8/1'1+/1:)*VY#;#2(+(+>C(/#'*)0h?$I9'(+>$KMM[:$

Wd#+.$U'1)6&#(#'$*+;$<*-(;$Y:$P=.1+X:$Y#;#2(+(+>$C(/#'*)0a$s!"#$!1'1+/1$I)"11=:t$*G#?#84)4)1!94*#67+/.2!>'64)1!ijjl?$i7mw!*+;$(+$*G#?#84)4)1!94*#6+/.!p!f)%4)#!g"//9a$=.+:1(.#:8/1'1+/1:)*V$Y#;#2(+(+>C(/#'D*)0h?$I9'(+>$KMM[:!

Wd#+.$U'1)6&#(#'$*+;$S=*'(*$A'*ZZ*+($A*-*ZZ(X:$C*+>8*>#?$=(/#'*)0?$*+;$)8=/8'#a$!"#$sO#+/'1$;#==*$Y(D)#')*$.8==#$!#)"+1=1>(#$;#==n];8)*Z(1+#t$(+$E(=*+:$*G#?#84)4)1!94*#6+/.2!>'64)1!ijjl?$JTDJ\w!*+;$(+$*G#?#84)4)1!94*#6+/.!p!f)%4)#$g"//9a$=.+:1(.#:8/1'1+/1:)*VY#;#2(+(+>C(/#'*)0h?$I9'(+>$KMM[:$

$

?@@B!

%8/15(1>'*9"0?$+*''*/(-#$*+;$/"#$H'#8;(*+$)1+)#9/(1+$12$=(2#$"(./1'0:$,*04%&-&'0.2!,-./04+*6.2!R$,-.7/0&%&1.2!m?$KFBDJGG:$

Y#.91+.#$/1$/"#$O1&&#+/*'(#.$50$@1=&#.$*+;$Y15(+.1+:$,*04%&-&'0.2!,-./04+*6.2!R$,-./0&%&1.2!m

HO*1-0-(0@1-1 0?2$K% (O-1 (0)-1 0 (-*) -91 64(:)) (0)-1 0 ((O-1 (0)-1 0 (-) --1 4%) --1 (+)-1 (+)-1) -91 (0)-1 0 ((9)-1 (O-1 %%(/)-1 (0)f [(?$K)]) 20 (iii)] TJ ET Q q 0.24 0 5 Tf [0 639.84 cm BT -0.039.6 0 0 46 1400.899 '#(4) -1 415 Tm &)+N0)f [(?$K)]) 20 (iii)] TJ ET Q q

O"#$)1.*$=#>>(*&1$q8*+;1$i=#>>(*&1$=*$&#+/#i}$g o "*/$*'#$^#$'#*;(+>$^"#+$^#$*'#$i&(+;D'#*;(+>i}h:$
J6/O4$4&!?4!, -4/&%&14+2!;#56&%&14+!#!, -4/O4+*64+2!kl!]B7D^?$KK[DKTJ:$$

P9Z(1+($;#==*$.)'(//8'*a$21'&#$;($9*..*>>(1$/'*$)8=/8'#$1'*=($#$*=2*5#/(ZZ*/($gP9/(1+.$12$=(/#'*)0a$H1'&.$
12$/'*+.(/(1+$5#/^##+$1'*=$*+;$^'(//#+$)8=/8'#.h:$G+--#1)+!?4!, -4/&%&14+2!Bm?$MBDKK[:$$

Wd#+.$U'1)6&#(#'$*+;$R*'1=(+#$!.)"8>>+*==X$I*8..8'#?$ o 0>1/.6($8+;$;*.$N#'"v=/+(.$-1+$I9'*)"#$8+;$
<#+6#+:$€5#'=#>8+>#+$Z8$#(+#&$68=/8'"(./1'(.)"#+$x#()"#+5#>'(22$gI*8..8'#?$N0>1/.60?$*+;$/"#$'#=*D
/(1+$5#/^##+$=*+>8*>#$*+;$/"18>"/a$!1^*';.$*$)8=/8'*=D"(./1'()*=$)1+)#9/12/"#$.(>+h:$

WO#.*'#$%=5*.($*+;$d#+.$U'1)6&#(#'X$C*$'1//8'*$;#==*$)*+1+()(/m$g!"#$5'#*6$12$/"#$)*+1+()(/0h:$S+$O:$A*==1$U*'5(.(1$*+;$O:${8*'*+/*$W];.:X?$=6+)-8&6(+04&)4!#!;+66+04&)4!g=6+)-8&6(+*4&)-!+)?!;+66+7*4&)-h$W99:$KBBDK\BX:$!8'(+a$!('#+(*$I/*&9*/1'(:$$

Y#-(#^$#..*0$1+$s@#=>*$_1^1/+0?$z!(&#a$!"#$E1;#'+$*+;$31./&1;#'+$]Q9#'(#+)#n:i$=4(#0-!;#@-2!Bs?$KLDK\:$$

C*$)1#'#+Z*$/#&91'*=#$g!#&91'*=$)1"#'#+)#h:$S+$O:$A*=1$U*'5(.(1$W];:X?$:%!6#/5'#6&!?#‰#-'#64#)0+!

C℘*./'*Z(1+#$9*'&#+(;#*$#$=℘i(==8&(+(.&1i$;#=℘&(/1$g!"#$3#'&#+(;#*+$*5./'*)/(1+$*+;$/"#$i]+=(>"/#+D &#+/i12/"#$&0/"h:$_4%&-&84+!#!*#&%&14+!𝕎I9#)(*=$(..8#$iS=$.1>>#//1$(+$q8#./(1+#iX?$D?$L\FDLMM:$

o*.$6*++$&*+$b5#'$#(+#+$ E#+.)"#+$^(..#+}$g o "*/$)*+$^#$6+1^$*518/$*$9#'.1+}h$S+$QV*#6-%&0#6!>&((#6+U+?#(4#!T+)-!W#6)#6!T#)0#!𝕎99:$TD\X:$];:50R8=/8'*&/$;#'$I/*;/$Ab/#'.=1"?$Ab/#'.=1":$$

!"#$.#9*'*/(1+$12$/"#$.(>+$2'1&$/"#$&#*+(+>a$A#./8'#?$^1';?$*+;$9=*0:$S+$9+)15+1#!+)?!9+)15+1#!J/F54-4*4&)<!J!G#+?#6:$];:$9+!G#$5#!?#!,0&)S*4F5#!J''%4F5S#$𝕎99:$JFDTFX:$E1+.?$U#=>(8&a$,+(-#'.(/f$;#$E1+.:$

!

?@AA$

o*.$5#;#8/#/$;#&$I854#6/$;(#$o#=/}$H'*>#+$#(+#'$9.0)"1=1>(.)"#+$I#&*+/(6$g o "*/$(.$/"#$&#*+(+>$12$/"#$^1'=;}a${8#./(1+.$12$9.0)"1=1>()*=$.#&*+/().h:$S+$_1'5#'/$R'8.#$*+;$E*+2'#;$Y*&&#$𝕎];.:X?$T+(7H561#6!G4)1$&6%#-5)1!d64*4-/0#!,-./0&%&14#𝕎!W4--#)-/0+8*-U64*4U2!d+*#1&64#)2!J)@#)?5)1-71#H4#*#$g@*&58'>$C#)/8'#.$1+$O'(/()*=$3.0)"1=1>0a$O'(/(q8#?$O*/#>1'(#.?$O1+/#Q/.h$𝕎99:$KLKDK[LX:$@*&58'>a$]'>#5+(..#$N#'=*>:$

U#Z#()"+#+?$U#+#++#+$8+;$U#;#8/#+$(+$;#'$2'b"#+$R(+;"#(/$gI(>+(20(+>?$+*&(+>?$*+;$'#2#''(+>$(+$#*'=0$)"(=;"11;h:$S+$_:$A8/#+5#'>$𝕎];:X?$d+))!(+)!d&((5)4U+*4&)!%#06#)z!d&)0#'*#!(V)?%4/0#6!a#6(4**7%5)1𝕀!>'6+/0#!5)?!>'6#/0#)!g3+)!@#!=#+/0!3&((5)4/+*4&)z<!3&)/#'*-!&8!ƒ6+%!A#?4+*4&)!p!9+)15+1#!+)?!>'##/0h$𝕎99:$TTDLJX:$H'*+628'/a$I)'(9/1':$

<(#$]+/v8c#'8+>$8+;$;(#$]'(++#'8+>$;#'$P54#6/(-(/v/:$x8&$I854#6/(-(/v/.D$8+;$]+/^()6=8+>.5#>'(22$5#($@#>#=$g]Q/#'+*=(.*/(1+$*+;$(+/#'+*=(Z*/(1+a$@#>#=℘.$)1+)#9/.$12$.854#)/(-(/0$*+;$;#-#=19&#+/h:$S+$T#71#%7M+06H5/0!gT#1#%!u#+6H&&Uh$ijll?$99:$J\GDJFK:$$

I0&51=()$'#9'#.#+/*/(1+$*+;$#*'=0$)1>+(/(-#$;#-#=19&#+/:$S+$E:$C1#^#+/"*=$𝕎];:X?$,6&/##?4)1-!&8!*0#!3&)8#6#)/#!&)!h9+)15+1#!+)?!9+)15+1#!J/F54-4*4&)!:a<!9+)15+1#!"#$#%&'(#)*!+)?!3&1)4*4$#!"#7$#%&'(#)*𝕎h$E1+.?$U#=>(8&a$,+(-#'.(/f$;#$E1+.:$$

<#'$;(*=#6/(.)"#$%+.*/Z$8+;$.#(+#$U#;#8/8+>$2b'$;(#$3.0)"1=1>(#$g!"#$;(*=#)/()$*99'1*)"$*+;$(/.$.(>D+(2()*+)#$21'$9.0)"1=1>0h:$S+$A:$db//#&*++$𝕎];:X?$W#1H#6#4*#6!?#6!T4-*&64-/0#)!,-./0&%&14#$g,4&)##6-!&8!T4-*&64/+%!,-./0&%&1.

#1!
!

$

?@AC!

<(#$ E(//#=$;#'$61>+(/(-#+$]+/^()6=8+>:$x8&$x8.*&&#+"*+>$;#'$(+;(-(;8#==#+$&(/$;#'$"(./1'(.)"#+$]+/^()6=8+>$;#.$U#^8c/.#(+.$5#($3(*>#/$8+;$ o 0>1/.6($g!"#$&#*+.12)1>+(/(-#$;#-#=19&#+/a$!"#$ '#=*/(1+."(9$5#/^##+$(+;(-(;8*=$*+;$"(./1'()*=$;#-#=19&#+/$(+$3(*>#/$*+;$N0>1/.60h:$_&65 (!d64*4-/0#! ,-./0&%&14#2!iB?$LL𝔻[[:$

H1'&#+$ 8+;$ 61+/#Q/8#==#$ U#;(+>8+>#+$;#'$]+/^()6=8+>$;#.$ A'#(2.)"#&*.$(&$#'./#+$ C#5#+.4*"':$ gH1'&.$*+;$)1+/#Q/.12/"#$;#-#=19&#+/$12$.#+.1&1/1'()$.)"#&*/*$(+$/"#$2('./$0#*'12=(2#:h$Y#.#*')"$ '#91'/$"#$#%&'(#)*!&8!-5H𝕏#/*4$4*.!4)!#+6%.!/04%?0&&?:$U#'=(+a$S+./(/8/#$12$3.0)"1=1>0?$H'##$,+(-#'.(/0$

Y15#'/$R*=(-1;*?$iY#-1=8/(1+$8+;$S;#1=1>(#:$<#'$@8..(/(.&8.:i$"+-!*J615 (#)*ℕ!b#4*-/O648*!8V6!, O4%&-&7 '04#!5)?!>&O4+%@4--#)-/0+8*#)!g=0#! J615 (#)*<!M&56)+%!&8!, O4%&-&'0.!+)?!>&/4+%!>/4#)/#-h:$ I#4O#8*! i j l C?$[MDMK:$

!

?@B@$

O*'*-*>>(1:$<#'$"(./1'(.)"#$I/#==#+^#'/$.#(+#.$Y#*=(.&8.$g*3+6+$+114&<!=0#!04-*&64/+%!0&640&)!&8!04-!6#+%4-(h:$=#)?#)0#)!{=#)?#)0#)<!M&56)+%!&8!*0#!J6*-|2!iCk?$\GD\B:$$

Y#9'(+/#;$(+a$P'=*+;1?$]:$W];:X$WKMFFX:$3+6+$+114&:$I/8//>*'/?$@*&58'>?$r$E8+()"a$<#8/.)"#'$Ub)"#'58+;:$

3'#2*)#:$S+!d:$U'1)6&#(#'!W];:X

Wd8+#$JGK[X:$_*''*/(-#$*+;$.(&8=/*+#(/0:$O#+/#'$21'$_*''*/(-#$Y#.#*')"$gx#+/'8&$2b'$]'Zv"=21'.)"8+>h?$, +(-#'.(/0$ o 899#'/*=?$A#'&*+0:$

WE*0$JGK[X:$!"#$#&#'>#+)#$12$.(&8=/*+#(/0:$O1+2#'#+)#$1+$ *J6/0#&%&1.!&8!*0#!A4)?N!* E 1+/#$N#'(/m$V$ %.)1+*$WI^(..$H#;#'*=$S+./(/8/#$12$!#)"+1=1>0$V$]!@$x8'()"?$, +(-#'.(/0$U#'+#?$*+;$, +(-#'.(/0$]'=*+D >#+D_b'+5#'>X?$I^(/Z#'=*+;:$

W<#)#&5#'$JGKFX:$_*''*/(-#?$(;#+/(/0?$*+;$/"#$"8&*+$.#+.#$12$91..(5(=(/0:$

W_1-#&5#'$JGKBX:$A#;v)"/+(.$8+;$E#/*9"1'a$ o(#$^('$8+.#'#'$N#'>*+>#+"#(/$U#;#8/8+>$-#'=#("#+$gE#&1'0$*+;$&#/*9"1'a$@1^$;1$^#$>(-#$&#*+(+>$/1$18'$9*./}h:$R(=(*+$8+;$R1#"=#'$O#+/#'$21'$O8=/8'*=$3.0)"1=1>0$*+;$O8=/8'*=$%+/"'191=1>0$Y8"'$,+(-#'.(/0$U1)"8&?$A#'&*+0:$!

W_1-#&5#'$JGKBX:$!*5=#$'1+;#$g3*+#=h$1+a$*I#.&)?!*0#!J6/04$#<!A#(&6.2!;+66+*4$#2!+)?!*0#!J5*&H4&7*16+'04/+%!,6&/#--:$3*'(.$O#+/#'$21'$_*''*/(-#$E*//#'.$r $<#9*'/&#+/$C#//'#.?$%'/.$#/$O(+w&*?$,+(-#'.(/w$3*'(.$F$<(;#'1/?$H'*+)#:$

WI#9/#&5#'$JGKBX:$R8=/8'9.0)"1=1>(#$(./$6#(+#$<(.Z(9=(+$.1+;#'+$#(+#$P'(#+/(#'8+>e]'+./$]:$U1#.)"$%^*';$12$/"#$A#.#==.)"*2/$28#'$R8=/8'9.0)"1=1>(#$g%..1)(*/(1+$12$O8=/8'*=$3.0)"1=1>0h$21'$d8#'>#+$I/'*85$W9+5?+*4&X?$I*=Z58'>?$%8./'(*:$$

WI#9/#&5#'$JGKBX:$S=$/#..8/1$+*''*/(-1$;#=$+1./'1$'()1';1a$_*''*Z(1+#$#$)8=/8'*:$_#-*4$+%!?#%%ZJ5*&H4&7*16+84+?$C(5#'*$,+(-#'.(/m$;($%+>"(*'(?$!8.)*+0?$S/*=0:$$

Wd8+#$JGKBX:$31..(5=#$&#&1'(#.a$U#01+;$/"#$;(-(;#$5#/^##+$/"#$(+;(-(;8*=$*+;$/"#$)1==#)/(-#:$O1+2#'D#+)#$1+$:(+14)4)1!*0#!_5*56#!&8!3&%%#/*4$#!A#(&6.?$,+(-#'.(/w$;#$_#8)"‰/#=?$I^(/Z#'=*+;:$$

WE*0$JGKBX:$E#&1'0$*+;$&#/*9"1'a$@1^$;1$^#$&*6#$.#+.#$12$/"#$9*./}$!"#$,+(-#'.(/0$12$!*&9#'#?$H(+=*+;:$$

WE*0$JGKBX:$H'*)/8'#?$."1)6?$=*)8+*a$O8=/8'*=$&#&1'0$*+;$/"#$&1&#+/$12$/"#$(+;(-(;8*=:$O1+2#'#+)#$1+$9+!(#(&64+!5)-#'&%*+!gE#&1'0$8+58''(#;h:$O#+/'1$%'/($;#==*$E1;#'+(/m?$!"#$,+(-#'.(/0$12$!8'(+?$S/*=0:$$

W%9'(=$JGKBX:$S+;(-(;8*=(Z(+>$/"#$"(./1'()*=$(&*>(+*/(1+a$C(2#$"(./1'0?$=(2#/(&#?$=(2#$./1'0:$O1+2#'#+)#$1+$=0#!T4-*&64/+%!:(+14)+*4&):$@8&*+(/(#.$Y#.#*')"$S+./(/8/#?$!"#$,+(-#'.(/0$12$I"#22(#=;?$,R:$

W_1-#&5#'$JGKLX:$!8'+(+>$91(+/.:$O1+2#'#+)#$1+$=0#!K)H54%?4)1!&8!E+-*!Q#6(+).<!E`/+$+*4)1!I4&176+'0.!+)?!T4-*&6.:$A#'&*+$@(./1'()*=$S+./(/8/#$C1+;1+?$,R:$

WP)/15#'$JGKLX:$o'(/(+>?$&#/*9"1'?$*+;$+*''*/(-#a$C119(+>$#22#)/.$(+$/"#$8+;#'./*+;(+>12&#&1'0:$_(#=.$U1"'$O#+/'#$21'$O8=/8'*=$3.0)"1=1>0?$%*=51'>$,+(-#'.(/0?$<#+&*'6:$

WP)/15#'$JGKLX:$!"#$.#+.#$12$*+$#+;(+>a$!"#$'(.#$*+;$2*=12/"#$9'1&(.#$12$+*''*/(-#:$P9#+(+>$I0&91D

W%9'(=$ JGKTX:$ P=;$(;#*.a$!"#1'0$12$&(+;$*+;$+*''*/(-#$=*+>8*>#$>*&#.:$!"#$A'*;8*/#$O#+/#'?$O(/0!
"#$%&'($)*!+,!-&.!/+'0!12" - /3!4#5!267897!:4;(<!-&.!/+'0!"#$%&'($)*!1-/"3=$

W<#)#&5#'$JGKJX:$_*''*/(-#$(;#+/(/0$*.$*$9'14#)/12#&1/(1+:$O1+2#'#+)#$1+$*E (&*4&)!+)?!3&1)4*4&)!4)!
; +66+*4$#<!>#%87"#-/64'*4&)!+-!+!A#+)-!&8!>0+'4)1!:?#)*4*.:$, +(-#'.(/0$12$@#(;#=5#'>?$E*'.(=(8.$R1==#>?$
A#'&*+0:$

WP)/15#'$JGKJX:$<#)#+/#'(+>$&#&1'0:$O1+2#'#+)#$1+$

WH#5'8*'0$JGKKX:$_*''*/(-#$9.0)"1=1>0$&##/.$+#8'1.)(#+)#a$]Q9=1'(+>$/"#$*8/15(1>'*9"()*=$9'1)#..:$<#9*'/&#+/$12$3.0)"1=1>0?$,+(-#'.(/0$12$31'/.&18/"?$,R:$

Wd*+8*'0$JGKKX:$_*''*/(-#$/(&#$'#-(.(/#;:$,+(-#'.(/0$12$!*==(++?$,+(-#'.(/0$12$!*'/8?$!"#$]./1+(*+$%)*;D#&0$12$%'/.?$!"#$]./1+(*+$A'*;8*/#$I)"11=$12$O8=/8'#$I/8;(#.$*+;$%'/.V],$I)(#+)#$3'1>'*&&#?$]./1+(*:$

Wd8=0$KMMMX:$x#(/61+./'86/(1+#+$gO1+./'8)/(1+.$12$/(&#h:$O1==1q8(8&$3.0)"1=1>(#$8+;$31./&1;#'+#?$<#9*'/&#+/$12$3.0)"1=1>0?$H'##$,+(-#'.(/0$U#'=(+:$

W%9'(=$KMMMX:$,+$*99'1))(1$)8=/8'*=#$*=$;(.)1'.1$&#/*=(+>8(./()1$g%$)8=/8'*=$*99'1*)"$/1$&#/*=(+>8(./()$;(.)18'.#h$O1+2#'#+)#$*G4/#6/+2!4)*#6$#)*&!#!8&6(+04&)#!4)!+(H4*&!'-4/&#?5/+*4$&?$O*/"1=()$,+(-#'.(/0$12$E(=*+:$$

W%9'(=$KMMMX$<#)(9"#'(+>$/"#$=(/#'*)0$#9(./#&#:$O1+2#'#+)#$94*#6+/.!+)?!3&)/#'*4&)-!&8!9+)15+1#:$,+(-#'.(/0$O1==#>#?$,+(-#'.(/0$12$!1'1+/1:$

WE*')"$KMMMX:$3.0)"1=1>()*=$*+;$=(/#'*'0$&1;#=.$12$*8/15(1>'*9"()*=$'#&#&5#'(+>:$;&6*06&'!_6.#!9#/7*56#:$_1'/"'19$H'0#$O#+/'#?$N()/1'(*$,+(-#'.(/0$!1'1+/1:$$

WH#5'8*'0$KMMMX:$S;#+/(/0$*+;$/(&#a$_*''*/(-#$&1;#=.12"8&*+$;#-#=19&#+/:$"4##8#)H+U#6!J@+6?!9#/7*56#:$P+/*'(1$S+./(/8/#$21'$I/8;(#.$(+$];8)*/(1+?$,+(-#'.(/0$12$!1'1+/1:$

WP)/15#'$KMM[:X$S=$/#&91$;#=*$-(/*a$E1;#=($;#=$/#&91$+#==*$+*''*Z(1+#$*8/15(1>'*2()*$g!"#$/(&#$12$*$=(2#a$E1;#=.$12$=(2#/(&#h:$I&)*+?4)4!9#/*56#?$O*/"1=()$,+(-#'.(/0$12$E(=*+:$$

Wd8+#$KMM[X:$o"1$^'(/#.$/"#$s/#Q/.t$12$+*/(1+*=$(;#+/(/0}$_&56*0!3&)16#--!&8!*0#!:)*#6)+*4&)+%!>&/4#*.!8&6!35%*56+%!G#-#+6/0!+)?!J/*4$4*.!=0#&6.?$,+(-#'.(/0$12$%*'"8.:$$

W%9'(=$KMM[X:$!"#$)8=/8'#$12$=(/#'*)0:$O1==1q8(8&$94*#6+/.!A+**#6-?$,+(-#'.(/0$12$!1'1+/1:$

W%9'(=$KMM[X:$I/'8)/8'#.12/(&#$(+$*8/15(1>'*9"()*=$'#&#&5#'(+>:$<#9*'/&#+/$12$3.0)"1=1>0?${8##+n.$,+(-#'.(/0?$R(+>./1+:$

W_1-#&5#'$KMMFX:$Wd:$U'1)6&#(#'$*+;$<*-(;$Y:$P=.1+X$o"*/$(.$*$^1';}$H*)8=/0$12$];8)*/(1+?$,+(-#'D.(/0$12$O*=>*'0:$

WP)/15#'$KMMFX:$o"*/$(.$+*''*/(-#$9.0)"1=1>0}$H*)8=/0$12$3.0)"1=1>0?$,+(-#'.(/0$12$O*=>*'0:$

WI#9/#&5#'$KMMFX:$C1$.-(=8991$&#/*=(+>8(./()1$+#=$5*&5(+1$9'#D.)1=*'#$gE#/*=(+>8(./()$;#-#=19&#+/$(+$9'#.)"1=#'.h:$<#9*'/&#+/$12$3.0)"1=1>0?$O*/"1=()$,+(-#'.(/0$12$E(=*+:$$

Wd8=0$KMMFX:$S;#+/(/v/$8+;$*8/15(1>'*9"(.)"#.$]'Zv"=#+:$gS;#+/(/0$*+;$*8/15(1>'*9"()*=$+*''*/(-#h:$<#D9*'/&#+/$12$3.0)"1=1>0?$P//1D-1+DA8#'()6#$,+(-#'.(/0?$E*>;#58'>:$

W%9'(=$KMMFX:$!"#$*8/15(1>'*9"()*=$9'1)#..$*+;$/"#$H'#8;(*+$)8=/8'#12=(2#$"(./1'0:$<#9*'/&#+/12];D8)*/(1+$*+;$I1)(*=$I/8;(#.?$o*."(+>/1+$,+(-#'.(/0?$I/:$C18(.?$E(..:!

WE*')"$KMMFX:$<(*=1>()*=$&1;#=.$12$;#-#=19&#+/:$S+/#'+*/(1+*=$I#&(+*'$12$/"#$%=#Q*+;#'$-1+$@8&D51=;/$H18+;*/(1+$"4+%&15#!+)?!"#$#%&'(#)*?$,+(-#'.(/0$12$C#(9Z(>:$

Wd*+8*'0$KMMFX:$3#'.1+*=#$S;#+/(/v/$8+;$*8/15(1>'*9"(.)"#'$3'1Z#..$g3#'.1+*=$(;#+/(/0$*+;$*8/15(1D>'*9"()*=$9'1)#..h:$3"(=1.19"(.)"#$A#.#=.)"*2/$S++.5'8)6$g3"(=1.19"()*=$I1)(#/0$S++.5'8)6h:$

Wd*+8*'0$KMMFX:$Y*8&$8+;$x#(/$(+$;#'$v./"#/(.)"#+$]'2*"'8+>a$](+#$68=/8'9.0)"1=1>(.)"#$3#'.9#6/(-#$gI9*)#$*+;$/(&#$(+$*#./"#/()$#Q9#'(#+)#a$%$)8=/8'*=D9.0)"1=1>()*=$9#'.9#)/(-#h:$S+/#'+*/(1+*=$Y#.#*')"$O#+/#'$21'$O8=/8'*=$I/8;(#.?$N(#++*:$

WP)/15#'$KMM\X:$o*"''#(/$8+;$<()"/8+>$(&$*8/15(1>'*9"(.)"#+$]'Zv"=#+$g!'8/"$*+;$2()/(1+$(+$*8/15(D1>'*9"()*=$+*''*/(-#h:$<#8/.)"#.$C(/#'*/8'(+./(/8/$C#(9Z(>$gA#'&*+$S+./(/8/#12C(/#'*/8'#h?$,+(-#'.(/0$12$C#(9Z(>:$$

W

WE*')"$KMM\X:$O1+2=()/$*+;$)1&&8+()*/(1+:$O1+2#'#+)#$"4-/&56-#-!&8!=4(#2!>'+/#2!+)?!35%*56#?$O#+D
/#'$21'$/"#$I/8;0$12$O1&&8+()*/(1+?$<#9*'/&#+/12O1&&8+()*/(1+$I/8;(#.?$,+(-#'.(/0$12$E*..*)"8D
.#//.$*/$%&"#'./:$$

WE*')"$KMM\X:!"#$H'#8;(*+$1';#'$12$/(&#:$<#9*'/&#+/$12$3.0)"1=1>0?$A#1'>#/1^+$,+(-#'.(/0?$ o *."D
(+>/1+?$<Oj$*+;$S+./(/8/#$21'$/"#$%;-*+)#;$I/8;0$(+$/"#$@8&*+(/(#.?$,+(-#'.(/0$12$E*..*)"8.#//.$*/$
%&"#'./:$$

Wd*+8*'0$KMM\X:$I/'#(/>#.)"()"/#+e<(.68'.(-#$H1'&#+$;#'$R1+2=(6/5#^v=/(>8+>$5#($R(+;#'+:$O1==1D
q8(8&$<#-#=19&#+/*=$3.0)"1=1>0?$H'##$,+(-#'.(/0$U#'=(+?$*+;$E*QD