

#\$%&'()*\$+),-(),,./0123"
0('&'()4.,.56)"&'()&)0'46(.56"7)\$"(6&'786"
%#\$"-6(06"*."96\$)*62":!;;;<="*.">77'"?'('"@(),)"
"

A9BC>D#B"EFFBG"

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

H(65))*7I"64"0J)">>9#"K674)(75)".7"K'IS.'(L#0'\$MN0"PQ7)"RSTRU0"RS!<"A)50.67"F.0)('0Q()V"
>>9#"@7\$.7)"W6(X.7I"H'-)(,!"#AAD3"RYZUTUYRZV">\$\$(.IJ0,(),)(/)*"[M">>9#V"
"

> \A9G>K93"]Q),06"'(0.56\$6"644)"Q7+'7'\$.,.*\$)\$)5'('00)(.,0.5J)"&)0'46()&'(.7)"Q0\$.88'0)"
*" ">

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-6,,676"),,)() / .,Q\$.88'0)" ,6S0'706"0('&.0)" &)0'46(0)" *'06"5J)" .\$. &67*6"() '\$)" 767"644()
(,) ,-.67." -)(" _Q)\$6"5J)" -(6/'V" H6(0" _Q)\$6"5J)" ,)70)" .70.&'&70)" '\$\$+),0)(763" _Q),0"
,0(0)I." ,.&[6\$.5" ,.(-(),)70"5670.7Q'&70)" -(6/65"\$\$" ,6,-)7.,67)0("() '\$01"),0)(7")"
/0" .70)(.6(V" F"4.7),0("*\$)\$" ,0'78"*\$)\$"('I'88"4Q7I)"*\$),)&-.6"*" ,6I\$. "56&Q7.5'70)"
0("),0)(.6(.01").70)(.6(.013" % ^ '\$\$' &'00.7" &)'7' / "Q7" I('7' /)7060"\$.0)&-6"767")(' [Q676d" ."
-.88."I(I."*\$)\$)"67*0" _Q' ,.**)70(6"\$) ,0'78)0" ,. ,5'0)7' / '76V2":%#"\$ -6(062"YS;="F6" ,-'8.6"() '\$)"
)\$&'() ,465.'7)\$6" ,-'8.6"&)0'46(.56")\$)"67")*./)70'76"&)0'46("*.)-7.,)(.0'56&)/.7)"
,) ,-.5.0'06" *'"Q7" '\$0(6" - , , 'II.63"%7)\$" [(/) /) ,-'8.6"5J)"6("*. /.*) / " \$)" *Q)"56,0)"m" ,-'8.6"
0'56("0Q(5J.76")4.006"*.067*.\$)I7."*6(0.0'6("7Q*6" ,6006"6--(.&70)"5.)\$6"m'56&.75. / '76" "
&Q6/),(.0'56&)*'0060".&.)-7.,)(.V2":%#"\$ -6(062" g; gTY="F6" ,-'8.6\$. [(6)"*)&'(I.7'06"*)\$"
&'()0'56,0'56&)/.7)"& ,6'.7'(.)/6"00(/) ,6"\$" ,0(0)I."7'((0. / '*)\$)\$" ,6I\$. '0" ,. -(64.\$"
Q7_Q)"56&)" ,-'8.6") ,*('06V"]Q),06"44)006"/.7)"5674)(&'06" *'\$"4'006"5J)"\$" ,5(.00Q"
*./)70"\$6" ,0(Q&706"5J)"-(65Q(" ,6\$.)/6V"

F+.&-.)I6"*)\$)\$" &)0'46(0" -)(&)00)" *." &6,0(0)"56&)"\$"('I'88" /)*)" .\$. &67*60"
.70(6*Q5)7*6"\$" ,Q" / .,67)".(('\$)"56&)*" ,5(.00"*\$)\$" ,60060.06\$6"*)\$(6&'786"G.56(*.*/.0"
,.(('\$)2V"#\$\$)006("b".&&)(,6'.7) ,0' ,.7'0Q('\$0'b'56&)" ,)\$"7'0Q("56&Q7.5" ,,)567" ^ '&' ,)"
(, -)55J. ' ,) "\$" ,Q" .7*6\$)V" G.IQ'(*6"\$" ,Q6'(- -6(06'567"\$.&67*6" / "5.0'06"Q7" - , , 'II.60".7"
5Q." ^ '&' , ' - '\$"567"\$.K670)" ^+@(I'80"Q7" , -)5.) *."% ? ') ,0(6" *+>(&.20"Q7".7,)I7'70)" -)(
\$).0" ,. -(06"\$ -) , (67"II.6" *." ? ' , .&6" \ 670)&-)\$\$.":%#"(6&'78.2" n e###I#n=3"

LF+NB, -(, ,./ .010L I N")('0".7"() '\$010"Q7" ,)567*6" &67*6"6" ,)567*6"() '\$010"
Q7" .&&7, ' ' --(6-(. '8.67)"*)\$\$+.7) ,-(, ,60"*)\$ /./)70)".7"0)(760" *'" - '(0)" *."
&6(.0Q(d")5.h0'767" I.1" '\$" ,6\$6"4.7)"*.) ,-(.&)(6":_Q),060"Q7")44)006" ,)567*6"(.6=0"
[)7,0" *."56,0.0Q(. ,0'0'\$) ".7) ,-(, ,6"4.7'\$&70)"(. /)\$'060"56&)"Q7" ,)567*6" .(('\$)"
('\$01d"767"0'706".(('\$)0"-6.0" ,) /)*' / &6"\$"() '\$01" /) (" *." ,4' (, "5670.7Q'&70)0" '\$"
- '(."*."Q7" / -6("5_Q)60)"\$"() '\$01".(('\$)"*6&.7'() '\$+0)(76V"

K67" 5.h0" ,)567*6" ^+@(I'80"6I7. /6S0"5J)" &)70)"Q&'7")70(' / "7)\$"
&67*6"*)\$\$"B, -(, ,./ .010"\$ /6(' / " "7.)70+'\$0(6"5J)"\$"56,0(Q8.67)"*."Q7"7Q6/6"
5670.7)70)0"6"0)(('0" *6/)0"4.75Ji" ,Q\$&67*6" / ."46, ,) ,0'0" '\$"5" *Q5.010" .7'Q4('IJ."
' / ([) (6"0(6/ '06" , '\$/)88"0" ,) [(7)0)&-6(7)'V" F+Q&'7.01".7"0'\$)5670.7)70)0"
' / ([)0(6/ '06" -'5)]Q),06"5670.7)70)"('."\$4.6("*)\$\$" ,06(. " :56&)" ,6&&"*)\$"
/./)()=0"*)\$\$" ,5.)78"")*)\$\$" (0."0Q00)0" ,) ,7*6"\$"B, -(, ,./ .01V":%#"\$ -6(062"YZS="

F+), -(, ,./ .01" -)(&)00)"_Q.7*."*." , '\$/ 'IQ'(*'() "\$" / .0" .70)(0" '75J)"_Q)\$6"5J)"767"b"
/ .,060"6//)(6"(.&'7)".7) ,-(, ,6d" ^ '&' , " *1" /65)" '\$\$"7'0Q(" ,0) , ,0' 56&)" '\$" &'()0" 'I\$."
)\$&)70.") 'I\$."7.&'\$V"#\$&'()767" ,)&[(" ,6S0'706"Q7" &)0'46(" '*'00" -)(("\$" / ,.01"
*)\$\$+), -(, ,./ .01")\$+.74.7.06" *6\$6("5J)"-(6/ ' -) ("\$.4'0)\$6"&6(060"&'75J)"-(5Ji"\$)_Q'\$.01"
*)\$&'() *") ,5(. /676" ' --(6-(. '0'&70)"\$. -)7.,)(6"5J)"b"5' -'5)" *." ,-(.&)() \$+.7/., [. \$)V"
K6&)"\$+'5_Q"*)\$&'()\$. -)7.,)(6"_Q' ,.767" ,)&[('&'0)(. '0'56((, -67*")" "Q7"&606"4\$Q.*6")
*.'7'&.560" ,)78"\$.&.0.0" *."0.78.67.")\$Q6I6" -()5.,.V"#&'()*)\$\$+), -(, ,./ .01") ,-(.&)" -)(5.h"\$.
) ,(.6"*.Q76" ,-'8.6\$. [(6)".7567*.8.67'06" -)("\$+.&&'I.7'8.67)V"

F+), -(.)78" *")\$\$" -(.&"*)\$Q, .67)" *+'&6(0" *."0(*.&)70." .7" ,)7,6" -.' '&- .60" \$"
567, -) /6\$)88" *." *6/)(, " '*'00'() '\$\$" / .0" ,65. '\$)")\$' /6(0. / ")\$. ,6-('II.Q7I)(*)\$\$"
IQ)((" -6. ,)I7'\$76"*)4.7.0. / &70)"\$"4.7"*)I\$. '77." &'(.7.0"6, ,. "*)\$\$" I.6/ .7)88"V" F"
-)(*.'0" *." _Q),06"0)&-6")*)\$&'()*)\$\$+), -(, ,./ .01" ,. 0(*'Q5) &)0'46(.5'&70)".7" Q7"
(,0(7I.&)706"*)\$6" ,-'8.6"*)\$&'()0'5J)"*) ,5(. /)0"6S0" *'"Q7" -(. / '8.67)"*."\$. [(010"75J)"
Q7"*)\$.&.0'8.67"*)\$\$+.&&'I.7'8.67)V">\$"-6,06"*)\$&'() ,. .&-67)"\$"0)(('3"%H)7, /60'56&)"

8"%L#N"4'00." '55" *Q."L I N"Q7" /6S0") ,-(, ,.0")('76"56&)"67*")\$\$"5Q."4Q(. " ,.b" -)(06"\$.&'()&*) ,.&6":&)70(0"
-(.&"")('76" ,56I\$.=3)"\$.&'()("\$+), -(, ,./ .010"5J)" ,5.6I\$. / " _Q)\$6"4Q(")"\$" -'\$5' / '06" ,)&[(/ " -'\$5'(\$'0".7"
Q7" ,6(0" *." ,0Q-6(0)V2":%#"\$ -6(062" g; R="

-(60)8.67)∇ A6\$6" * " 5.h0" * " _Q),0" , ,5)\$0'0" -60(1'7',5)() *6&'7." Q7" 7Q6/6" /)(6"
) , -(, , , /6∇ :%#\$"-6(062" gZZ="

^ '&' , ') ' '75J)"\$' "@(0) ,)" , 0) , , ' , , *) , 5(./676"56&)"7'Q4('IJ)" -)(5Ji"J'776"5' - .06"
5J)"\$' "4)*"7)\$S+), -(, , , / .01"5J)" , '\$/ ' (' -- (,)70" "Q7+Q06- . '0"5J)"(.5J.)*)"Q7"5' & [. '&)706"
-(6467*6"*)\$"-7 , .)(6"5J)"(.IQ'(*' "767" , 6\$6"\$+Q6&60"&' "75J)"I\$."7.&'\$.)"\$' "0)((∇"K." /Q6\$)"
Q7"%5' & [. '&)706"7)\$5Q6()20"56&)"(5.0" "Q7" "*)\$\$)"5.0"8.67."-(4)(.0)*)\$\$'"@ (0) ,)0"*."AQ, '7"
A670' I3"% p6"4'006"Q7" / . ' II.6" -)(" /)*)("56 ,)&)"(/ . I\$.6 ,)∇ f 7"5' & [. '&)706"7)\$S6" , 5)7' (.6"
f 7"5' & [. '&)706"7)\$5Q6()∇2":9-&: - * , % : % '(%" !g<="

#\$(*) , .*) (.6" * . "Q7" & 67*6" & . I\$.6()0*)\$\$)"Q06- .)0"\$6"56\$0. / ' "75J)" >77" " ? '(." @ (0) ,)3"
06(7'7*6" " " IQ'(*' () . "\$ & 67*6" 567" I\$. 655J." * . "Q7" (" I'88" " I.6 / '7)0" * .5J. '("5J)" "00(/) (, 6"
\$+) , -) (.)78" "*)\$\$' "A)567* " IQ)((' "&67* . '\$)"\$' " , Q" "&)70" "b"%* . /)7Q0" "6,0.\$)20" -)("5Q." *) , .*)('"
, '\$/ ' ()"\$' " / .0" * "\$" * 6\$6()) * "\$' " / .6\$)78" "5J)" , . (-)0676"56&)"Q7"%&' () ,)78" "&' . - '5)23"

\)7" - (, 060" * Q7_Q)0" .6" & . "0(6 / ' . " " * 6 /) (& . ['00) () -) ("Q7" "56 , ' "m"\$' " / .0" "m"
5J)") (" "Q7" ' [. , , 6") "Q7" ' -) (* .0" ∇" F6" , ' -) / 60" & ' " 5.h" 767" 06I\$.) / ' "5J)" *6 /) / 6"
['00) (& . ∇ ^ 6 /) / 6" , 5(. /) () "m" 4) (&' () "5670.7Q' &)70" . "\$ 4\$Q)70") " \$+ , 0'0.56" m"
'00(/) (, 6" Q7" ' - ' (6\$" "5J)0" (. , -)006" '\$\$+' (&" () I6\$' () " * . " Q76" , 5(.006() '75J)"
56&Q7)0") ("Q7" ' - ' (6\$' .74'70.\$)∇ :9-&: - * , % : % '(%" ZU="

H)("\$' " @ (0) ,)"\$' "% - ' (6\$" .74'70.\$)2"5J)".75\$Q*)"% .7567I(Q)78" ,)&'70.5J)" , .70'00.5J)2"
b"Q7" "\$.7IQ" , .& [6\$.5'0"5J)"\$) -) (&)00" * . " , 0' [. \$. () "Q7+ . *)70.01"7)\$" ,)7,6"5J)" (' -- (,)70" "Q7" "
\$.7IQ" - (6 - (. "567"5Q.") , - (&) (, .0"5' - '5)" * .56&Q7.5' () _Q)\$S6"5J)"\$) . ,)70" :A)76"G)) * !UZ=∇"
F" @ (0) ,) , 0) , , ' , - .) I" .7"Q7" "760" "*)\$"(6&'786" , 5(.00" "7)\$" ! ; <g"5J)" . "\$5670.7Q6"0(" - ' , , '06")"
- (,)70" "b" (' -- (,)70'06" * "\$\$" &) & 6(. '3" %K+) (' .7" &) "Q7" " I ('7*)"7) I'8.67)" *)\$' () '\$) :\$6"
) *) / 6"56&)" .7I'776") "4QI' =L I NV" B" -)7 , ' .3" * 6 /) , ' (1" _Q' \$56 , ' " * . () '\$) T

G#-?&6H#, #*%*6. (-G#-?&6H#'/ - * "%; ;6*; %((%&6(. &6*#(6;#6"60" "5Q("*. "F)67' (*'"9(' - ', .)"
^ (' IJ"@+K677)\$0"C('756"K), '0.0"RS!Y0"--V";UT!SYV"