```
"##$%!!' () *+,!
!
"-. /012. /03!
```

! !													
!	ļ	!	!	ļ	ļ	!	ļ	ļ	İ	ļ	ļ	iiii	
OL!	M#,+*5	\$6,>*#!	%#5!GN((6\$,>=(!	8\$999	6+J![[[[[[[0i
. <u>[</u>]	8\$99	%+J!*P!4	1 <mark>8</mark> %##(5	!"6,>*#	A!Q%H(#!R\$+>#	E!. /01	2. /03!!					S!
OL!	8\$99	%+J!*P!4	1 <mark>8%##(</mark> 5	!"6,>*#	A!T*,!-	(,!U*9)&(,(5!						F!
VĮ	8\$99	%+J!*P!''	6,>*#A!	T*,!W+:	>E>#%&J	!4&%##((5!!!!!!!!!!						0/!
Sl!	U*#6&\$	A>*#![[[[00!
ΧĮ	"))(#	5>N!M7!;)5%,(5	!U&*A>#I	E!,D(!K*	(*) <u*< td=""><td>++(6,>=(</td><td>(!"6,>*#</td><td>#A!Q%C&</td><td>(AICJI4+</td><td>*E+%9</td><td>![[[[[]</td><td>0.!</td></u*<>	++(6,>=((!"6,>*#	#A!Q%C&	(AICJI4+	*E+%9	![[[[[]	0.!
1	"))(#	5>N!M7!	•		•	-	-	-		-			

1 .1

. QD(!. /012. /03!%6%5(9>6!J(%+!>#6&\$5(5!%!A>E#>P>6%#,!+(=>(?!*P!*\$+!"WK!)+*6(AAI!AJA,(9!!%#5!+(A\$&,A!*P!,D(!)+(=>*\$A!S!J(%+A!!M,!?%A!%&A*!,D(!P>+A,!J(%+!>#!*\$+!P>=(2J(%+!]6&*A>#E!,D(!&**)^!6J6&(!?D(+(!(%6D!)+*E+%9_A!&(%+#>#E!E*%A!%+(!9(%A\$+(5l!6D%#E(A!%+(!9%5(!,*!>9)+*=(!A,\$5(#,!&(%+#>#E!!&(%

! 0!

!						
- (%+!	. /012	. /032	. /0F2	. / . /2	. /. 02	@‱!
	. /03!	. /0F!	. / . /!	. /. 0!	. /!	. /!
"AA(AA!	e!	e!	į	e!	e!	
' (=>(?!	į.	e!	į	į	e![,D>A!	-:
"AA(AA9(#,A!!					+(=>(?!	
					6&*A(A!,D(!	
					&**)\!	
M9)+*=(9(#,!	ļ.	e!	e!	e!	ļ.	ļ
"6,>*#A!						

V!

```
ļ
            • U+(\%, (5!5(,\%\%(5!9\$\%,>2J(\%+!)\%\%A!P^*+!(\%6D!)+^*E+\%9!)
            • U$++>6$&$9!c%#%E(9(#,!f%#5C**H!
ļ
            • MKW!5(=(\&^*)9(\#_i!!)
            • R(=(\&^*) 9 (\#,!^*P!9 \&,>2J(\%+!) \&\%#A!
            • R(=(\&^*) 9(\#,!*P!\#(?!+$C+>6A!P*+!?+>,,(\#!6*99$\#>6\%,>*\#!\%\#5!g$\%\#,>,\%,>=(!\%\#\%JA>A!)
            • 4%*,!%AA(AA9(#,A!$A>#E!#(?!+$C+>6A!!
                                     o R>+(6,!"AA(AA9(#,7!KW0"!b!KW0Y7!!
                                                               A*P,?%+(!!!
                                     \circ M#5>+(6,!"AA(AA9(#,!!
                                                               ! 8$+=(J(5!E+\%5\$\%,>#E!Y8Y"!A,$5(#,A!)
                                                               ! U^*\#A>A, (5!^*P!(N>,!A\$+=(J!\%AH>\#E!P^*+!A,\$5(\#,!P((5C\%6H!)))))
                                                               ! '()*+,!)+*5$6(5!P*+!*#2E+*$#5!%#5!*#&#(!Y8Y"!A,$5(#,A!(=\%$\%,(5!
                                                                          >#!8)+>#E!. /03l!
                                                               ļ
                                                                                                            ![8JA, (9!b!U$++>6$&$9\7!
                                              KWO"!b!KWOY7!
                                                               ! R(=(\&*)(5!,+%)*\#E!=>5(*A!,*!C(!$A(5!)#!6%)A,*\#(!6*$+A(!cdcQ!VXS/!))
                                                                           ,*!P%6%,%,(!>9)&(9(#,%,>*#!*P!U%)A>9!A>9$&%,>*#!!
                                     o KW. "!b!KW. Y7!
                                                               ! Y8Y''!: \$\%\#_{,>,\%,>=}(!8H \times MA!M9) + *= (9(\#_{,!}Q(\%9!)) + (9(\#_{,!}Q(\%9!)
```

S

- 4+*`(6,!>#=*&=(A!AD*?>#E!%!=>5(*!*P!)%A,!A,\$5(#,A!AD%+>#E!,D(>+!
)>#>#A!%#5!%5=>6(!,*!P\$,\$+(!A,\$5(#,A!QD>A!*+>E>#%,(5!P+*9!
 +(A(%+6D!,D%,!6%9(!*\$,!*P!8,%#P*+5!%#5!%#*,D(+!\$#>=(+A>,J!*#!
 ,D(!>9)%6,!*P!&%J!>#,(+=(#,>*#!,D(*+JL!ZD(#!A,\$5(#,A!A((!*,D(+!
 A,\$5(#,A!?D*!%+(!&>H(!,D(9)!%C&(!,*!A\$66((5!!,D>A!D%A!%!)*A>,>=(!
 >9)%6,!*#!D*?!?(&&!,D(J!5*L!!)
- cdcQ!00//!P%6\$&,J!Y%&%+%9%#!' %`%#!A(&(6,(5!A,\$5(#,A!,*!C(! AD*?#!>#!,D(!=>5(*!
- 8%#5J!K\$*#E!P%9(5!,D(!A,\$5(#,A!%#5!(5>,(5!,D(!=>5(*
- cdcQ!00//!P%6\$&,J!' >6H!UD*J!?>&!) >4*,!>#!@%&!. /03!?>,D!%! 6*#,+*&!A(6,>*#L
- ! : \$%#,>,%,>=(!4%*,7!: \$>B<U\$+%,(5!a>5(*A!)
 - @%6\$&,J!?*&!E>=(!A,\$5(#,A!%!)+(,(A,![5(=(&*)(5!CJ!P%6\$&,J\!! 5()(#5>#E!*#!A6*+(!!A(,!J!?*,44!?)!P?>DE!P>f[(&*)1()()1(5)1(!CJ)1(!P)1(%6)?

! T(?!6*99\$#>6%,>*#!6*\$+A(7!U*99\$#>6%,>*#!>#!Q(%9?*+H!?>&!C(! \$A>#E!R%(!U%+#(E>(!Q(%6D>#E!%#5!Q+%>#>#E!2!>9)%6,AI!*+%!!?+>,,(#!%#5! ,(%9?*+H!AH>&A!

•

$![8JA, (9!b!U$++>6$&$9\7!$

- o KWO"!b!KW. "7!
 - ! O//O![A**#!,*!C(!O/O\!?\\!C(!\\$A(5!P*+!\\\AA(AA\9(\#,!*\),D(*\!,D\\\\\!
 - U*\$+A(!D%A!C((#!+(A,+\$6,\$+(5!A*!,D%,!,D(!&%A,!. /!9>#\$,(A!*P! (%6D!&(6,\$+(!>A!5(=*,(5!,*!?*+H>#E!,D+*\$ED!%![9%,D2J\!)+*C&(9!!%#5!,D(#!D%=>#E!%!5>PP(+(#,!A,\$5(#,!)+(A(#,!,D(! A*&\$,>*#!,*!,D(!+(A,!*P!,D(!6&%AA!!
 - ! 0//S![A**#!,*!C(!0/S\!
 - "55(5!%#!GN6(&!) +*`(6,!,D%,!,%H(A!6*\$#,+J2&(=(&!5%,%!%#5!%AHA!A,\$5(#,A!,*!)+(5>6,!dR4!E+*?,D!!"&A*!%AHA!A,\$5(#,A!,*!6*&&(6,!5%,%!*#!>#,(+(A,!+%,(A!%#5!>#P&%,>*#A!+%,(A!!%#5!\$A(!%!9%,D(9%,>6%&!9*5(&!*P!AD*+,2!%#5!&*#E2+\$#!(N6D%#E(!+%,(A!,*!6*#5\$6,!%!A(#A>,>=>,J!%#%JA>A!*P!(N6D%#E(A!,*!,D(A(!9%+6,**9>6!=%+>%C&(Al!@*+!,D(!P\$,\$+(!!9>ED,!D%=(!A,\$5(#,A!)+(5>6,!(%+#>#EA!P+*9!%#!*=(+A(%A!>#=(A,9(#,!!C%A(5!*#!%!5(9%#5!P\$#6,>*#!,D%,!5()(#5A!*#!,D(!dR4!P*+(6%A,!!%A!?(&&!%A!,D(!6\$++(#,!(N6D%#E(!+%,(!!
- KWO"!b!KWV"7!
 - ! VV//7!G9)>+>6%!)%) (+!D%A!C((#!+(A,+\$6,\$+(5!A*!A,\$5(#,A!A)(#5!9*+(!, >9(!>#,(+)+(,>#E!+(E+(AA>*#!+(A\$&,A!+%,D(+!,D%#!6D**A>#E!C(,?((#!=%+>*\$A!A)(6>%-6%,>*#A!,*!(A,>9%,(!!

•

ļ

- \circ R>+(6,!"AA(AA9(#,A7!
 - ! . Y7!Z+>,,(#!U*99\$#>6%,>*#!>#!W%H&%#5!%#5!8%#!'%9*#!
 - ! 0"7!d&*C%&>B%,>*#!>#!f%J?%+5!!
 - "?%>,>#E!+(9%>#>#E!9%, (+>%&!P+*9!, (%6D>#E!P%6\$&, JL!!
 ![8JA, (9!b!U\$++>6\$&\$9\7!
- O M9)&(9(#,%,>*#!*P!d&*C%&!RT"!)&*,!P*+!O\!\$A(!%A!%!,(%6D>#E!,**&!>#! +()&%6(9(#,!*P!U%)A>9_A!*+>E>#%!A>9\$&%,>*#!%#5!. \!\$A(!%A!%!#(?!,**&!,*!C(! &>#H(5!?>,D!%!6*\$+A(!(9C(55(5!%AA>E#9(#,!P*+!%AA(AA9(#,!*P!,D(!&(%+#>#E! *C`(6,>=(7!d&*C%&>B%,>*#!!!

•

![8JA,(9!b!U\$++>6\$&\$9\7!

o KW0"7!!

1!

- ! @*+!XO/O![A**#!,*!C(!X//\I!4+*E+%9!R>+(6,*+!C(E%#!6D%#E>#E!,D(! 9%,(+>%!,*!9%,6D!,D(!P\$,\$+(!=(+A>*#!*P!,D(!6&%AA!\$#5(+!A(9(A,(+! AJA,(9!!QD%,!>AI!,D(+(!>A!9*+(!(9)D%A>A!*#!9%,D(9%,>6A!%#5! *),>9>B%,>*#![,D(!kP*\$#5%,>*#Ak!*P!(6*#*9>6!%#%JA>A\I!%#5!&(AA!*#!)+*5\$6(+!,D(*+J![?D>6D!?>&!C(!>#,(E+%,(5!>#!X/O\!%P,(+!A(9(A,(+Al!
- o KW. "7!!
 - ! T*!6D%#E(A!,*!XO/.!
- o KW0"!b!KWV"7!
 - ! M#A, (%5!*P!*#(!&%+E(!+(A(%+6D!)%) (+!!A,\$5(#,A!>#!X3FX!%+(!#*?! %AA(AA(5!CJ!,D(!6*++(6,!%))&>6%,>*#!*P!9*5(+#!(9)>+>6%!+(A(%+6D! 9(,D*5A!,*!5%,%!>#!P*\$+!D*9(?*+H!%AA>E#9(#,A!%#5!*#(!>#5>=>5\$%!))+*`(6,!!!
 - G%6D!*P!,D(!P*\$+!D*9(?*+H!%AA>E#9(#,A!P*6\$A(A!*#!*#(!5%,%A(,! %#5!*#(!(9)>+>6%!9(,D*5!%#5!>A!E+%5(5!%66*+5>#E!,*!D*?!?(&!,D(!A,\$5(#,!P*&*?(5!6*++(6,!+(A(%+6D!)+*6(5\$+(A!P*+!,D%,!A)(6\text{P})))))))))
 - QD(!+(A(%+6D!)+*`(6,I!?D>6D!5(,(+9>#(A!\$)!,*!V/I !*P!%! A,\$5(#,A!E+%5(!>#!,D(!6*\$+A(I!>A!C%A(5!*#!D*?!?(&&!%!A,\$5(#,! %))&(A!*#(!*P!,D(!(9)>+>6&&!+(A(%+6D!9(,D*5A!,*!%!,*)>6!%#5! 5%,%A(,!*P!,D(!A,\$5(#,A!6D**A>#E!>#!,D(!)+*6(AA!*P!?+>,>#E!%! +(A(%+6D!)%)(+l!

 $![8JA, (9!b!U$++>6$&$9\7!$

O T*!%6,>*#!,*!5%,(!!; #%C&(!,*!+(%6D!4+*E+%9!R>+(6,*+!>#!8\$99(+!./03l!Z>&!! P*&*?2\$)!>#!@%&!./03l!

 \circ M#5>+(6,!"AA(AA9(#,A7!

ļ

! 8\$ += (J(5!E + %5%) + E!C8Y''!A, \$5(#,A!)

 $U^*#A>A$, $(5!^*P!(N), !A^* + = (J!\%AH) + E!P^* + !A, \$5(\#, !P)((5C\%6H))$

'()*+,!)+*5\$6(5!P*+!C8Y"!A,\$5(#,A!(=%\$\%,(5!>\#!8)+>\#E!. /03l!

3

- @%6\$&,J!5(=(&*)9(#,!*P!#(?!+\$C+>6!P*+!K(%+#>#E!WC`(6,>=(!. R7!U+*AA2U\$&,\$+%!" ?%+(#(AA!
- CY"!)+*E+%9!5>+(6,*+A!9((,>#E!,*!5>A6\$AA!P*&*?>#E7!

ļ

- o '(=>(?!*P!Z+>,,(#!U*99\$#>6%,>*#!"AA(AA9(#,!'()*+,I!P*\%*?(5!CJ!)+*E+\%9!
 6*99>,,((!5>A6\$AA>*#!\#5!6*9)\(,>*#!*P!U\(*A>#E!,D(!K**)!P*+9!CJ!4+*E+\%9!
 U*99>,,((!R>+(6,*+AL!)
- \circ ' (=>(?!*P!d&*C%&>B%,>*#!"AA(AA9(#,!'()*+,![>#!)+*E+(AAI!%?%>,>#E!+(A,!*P!

```
| Ol "WK!Z (CA>, (!5(=(&*)9(#,!
.l '(*#,(E+%,>*#!*P!R>E>,%!C(%A$+(A!%#5!,+%>#>#E!
Ol '(=>(?(5!(N,(+#%!A*P,?%+(!P*+!%5*),>*#7!!
%L d+%99%+&J!
Cl 4(%+A*#!Z+>,>#E!K%C!
6L Z%,(+9%+H<Q%AHA,+(%9!
5l 8(5*#%!
VL U%A6%5(!2!#(?!?(CA>,(!A*P,?%+(!
SL M#5>+(6,!%AA(AA9(#,A!!
%L d+%5$%,>#E!Y8Y"!A,$5(#,A!!
CL d+%5$%,>#E!C8Y"!A,$5(#,A!!
```

!

ļ

0/

ī

```
"%,D*$ED!,D(!+(%66+(5>,%,>*#!5(6>A>*#!CJ!,D(!+(=>(?!,(%9!>#!@%&!./01!?%A!%!E+(%,!>#5>6%,*+!,D%,!UYG!>A!D(%5(5!>#!,D(!+>ED,!5>+(6,>*#!+(E%+5>#E!"WK!!,D(+(!>A!A,>&!%!&*,!,*!5*!,*!)+*=(!,D%,!?(!D%=(!%#!(PP(6,>=(!!A$A,%>#%C&(!"WK!AJA,(9!?>,D!%#!%66(),>#E!%#5!)%+,>6>)%,*+J!
6$&,$+(!*P!%AA(AA9(#,!,D+*$ED*$,!,D(!6*&(E(!!))

QD>A!+()*+,!&**H(5!%,!"WK!%6,>=>,>(A!6*#5$6,(5![%#5!#*,!6*#5$6,(5\!>#!J(%+!0!*P!*$+!S2J(%+!6)46()!./012./03!!QD(!E*%&!*P!,D>A!J(%+!?%A!,*!P*6$A!*#!AJA,(9%,>6!>9)+*=(9(#,A!A$6D!%A!+(=>(?>#E!%#5!9*5>#J)>#E!"WK!)+*6(AA(A!%#5!)+*,*6*&A!%#5!%55+(AA>#E!6&*A>#E!,D(!0.3(A)0.3(>)09)(5)(
```

00!

!

! 0.!

! "#\$%_E))*%L,@67\$S%	+6>>93\$%93@C#,>A*%	%	%
. 979@\$94%68>/@%6. 94%	J)<%0?%\$6493\$.%B/77%	1R9.67\$.%C,59%30\$%#->0594%	\0\F%06, 3\$/\$, \$/59%#->059#93\$%U9, #%L 99\$/3"%
\$0%9%, @67\$S%	#99\$%9`-9@\$,\$/03.6%	, 34%C, 59%30\$%#9\$%	+0346@\$946%
/493\$/?/94%/A91	%	893@C#,>AGW#->059#93\$.%	1F9#93\$¼,\$,%9.67\$.%95/9B94%
,/"3#93\$.%@>0%	a,.\$%93@C#,>A;.=*%	3994946%	1Z/.@6/03%9.67\$94%3%/.\$%0?%,@67\$\$%#->059#93\$%
.9@\$/03.6%	M)E&1M)E(*%])<%O?%		/49, .%
	.\$6493\$.%B <i>/11%</i> #99\$%0>%		%
	9`@994%9`-9@\$,\$/03.6%		%
			1^#-79#93\$94\\%-/70\$.\%35075/3''\% [! U\%_E))\%>0#\%
			7/.\$%0?%,@67\$\$%#->059#93\$%49,.%
			%
		1	1

\$#%_)')*M_,@67\$\$% .979@\$94%68>/@%6.94% \$0%...9...%,@67\$\$% /493\$/?/94%/A91 ,.../"3#93\$.%@>0...% .9@\$/03.6%

"
1R9.67\$.%C,59%#9\$%95/.94%
893@C#,>A%,34%\$,\$94%,/>7\$%
@03./.\$93\$%49-934/3"%03%C9%
,...9..#93\$%%-9>C,-.%%7/"C\$%
/#->059#93\$6%#,\$%e03./49>%
>,/./3"%C9%893@C#,>A6%

1c`-70>94% 0%F@9..%0>% 7%\$6493\$%6'''9.\$/03%>0#%/.\$%0?%,@67\$\$\#->059#93\$\\49,.\%

1c`-70>94%0+FF% 9>5/@9.% 34%9`@97%6\$0>/3''%-0\$93\$/,7% 1c`-9@\$,\$/03.%0>%->0?/@/93@/9.%3%5,>/06.% 0?\$B,>9%

%

```
! "#$%&'()*%
                                                                                                                                                             +6>>93$%
                                                                                                                                                                                                                                                                                                                                                             0->/3"%M) EJ%%d31">0634%d31' MK%e%d37/39%d31 EMK%
                                                                                                                                                                    \93@C#,>A*%
L, @67$S%
 . 979@$94%
                                                                                                                                                                      J) < 10?% $6493$.%
                                                                                                                                                                                                                                                                                                                                                             U > , /$\%E*\%d > ", 3/: , $/031\%J' < 0\%J > , /$\%M*\%f, 3"6, "91\% M < 0\% J' < 0\%J' < 0\%J' > , /$\%J' \ 0\% J' \ 0\% J
>68>/@%6.94%0% B/77%#99$%
                                                                                                                                                                                                                                                                                                                                                             U > 1/3 \times 10^{-4} \text{ m}^{-2} = 1/3 \times 10^{-4} \text
   ,..9..% $6493$% 9`-9@$,$/03.6%
                                                                                                                                                                                                                                                                                                                                                             J_{<0}, /$%(*%+93$>, 7% 9..., "9N%J) < 0%J0$, 7*% ] < %
 ->9.93$,$/03.6%
                                                                                                                                                                                                                                                                                                                                                              d59>,7%@0>9%C,.%30$%#->0594%#6@C%/3@9%
                                                                                                                                                                                                                                                                                                                                                              89"/33/3"%49.-/$9%C/"C9>%@O>9%3%->95/06.%S9,>6%
                                                                                                                                                                                                                                                                                                                                                              g994%0%#03/$0>% 34% 99%?%39B%0M0%e06>.9%C97-.6%
                                                                                                                                                                                                                                                                                                                                                             1g9B%0##63/@,$/03%06>.9N%h0%_(N%B9/3"%
```

	#99\$% 9`-9@\$,\$/03.6%	U>, \\$\M^\X \@7\\\$, \\$9.\\X\\ < \\\U\>, \\\$\\^\\X\\ +03\\$>\86\\$\/03.\\X\\] < \\\U\\>, \\\$\\X\\X\\ +03\\$>\6\@\\$\/5\\X\\ +\\/\#, \\$\\X\\X\\X\\X\\X\\X\\X\\X\\X\\X\\X\\X\\	" TZ95970-#93\$NO?%39B%0##63/@,\$/03%06>.9*% +0##63/@,\$/03%3NJ9,#B0>A%B/T7%89%6./3"%Z,79% +,>39"/9NJ9,@C/3"%,34NJ>,/3/3"%1%#-,@\$.1MO>,71% B>/\$\$93%,34%59,#B0>A%A/TT.% 1^3@>9,.94%6.9%0?%0?\$B,>9*%i0/@9\$C>9,4%,34% j 00#\$0%#->059%\$6493\$.%\$9,#B0>A%A/TT.%0>% 037/39%\$6493\$.6%% 10\$,??%00>4/3,\$94%,8%4,\$9.\$60%#-79#93\$%,34% 495970-\$\$9,#B0>A%A/TT.%3%,\$039%06>.9% ! [! U%x'()6%%
L, @67\$S% 979@\$94% \\ >68>/@%.94%0% \\ , 9% \\ /34/5/46, 7% \\ = 7	+6>>93 <u>\$</u> % \93 <u>@C#, >A*</u> % J) <%0?% .\$6493\$.%B/77% #99\$% 9`-9@\$,\$/03.6%		

c+dg%_)))*% ')<%0?% X/3\$9>M) EJ*H3H MJKMM<\0?\%\$6493\\$.\%\P9\893\@C\#, >AU\ L,@67\$\$\\B/17\\6.9\\\\\\.\$6493\\$.\\\B/17\\\\ J]<%0?%\$6493\$.%4/4%30\$%#99\$%893@C#,>A6% @06>.9%/3,7% .@0>91kWI 1\$0% 9`,#%.% J)<% EGNO\$, >\$/3"\%3\%L, 77\%M)E'\%c+dg\%_)))\% 4494\%/`\%D6/::9.\% ,..9..#93\$% ,>\$/?,@\$G\\O@O>9.\ 0?%C9%34/5/46,7% .\$6493\$%9`,#.% B/77%89% @0#-,>94\\$0\% 49-,>\$#93\$% 49\$9>#/394% 34% ?, @67\$S% -9@/?/@% 893@C#,>A.%O>% ->0?/@/93@S% 79597.G‰

c+dg%_))(*% ')<%0?% L, @67\$S%B/77%6.9% .\$6493\$.%B/77% @06>.9%/3,7% .@0>91kWI 1\$0% 9`,#%.% J)<% ,..9..#93\$% ,>\$/?,@\$**G%O**@O>9.% 0?%C9%34/5/46,7% .\$6493\$%9`,#.% B/77%89% @0#-,>94%0% 49-,>\$#93\$% 49\$9>#/394% 34% ?, @67\$S% -9@/?/@% 893@C#,>A.%O>% ->0?/@/93@SG%

%

X/3\$9>M) EJ*M3% M' K%(&<\0?% \$6493\$.\#9\$\893@C\#, >A(\%\ \ \\0?\%\\$6493\$.\\#/4\\30\$\\#99\\893@C\#, >A(\%\)

E(%c+dg%_)) (%pC, 3"94%\$C9%\$9`\$800A%3%, 36, >S% X/3\$9>% b6, >\$9>=%0?%M) E' (%d>/"/3, 7%\$9`\$800A%B, .%63@79, >M%B/\$C% .959>, 7%9>>0>.% 34%30\$%59>S% S.\$9#, \$/@(%F7.0%>05/494% .6--79#93\$, 7%#, \$9>/, 7.%?0>%499-9>%6349>.\$, 34/3"%0?% @9>\$, /3%0>9%03@9-\$.1% 6@C% .%->/@9. %34/@9.1%'>0B\$C% @, 7@676.1%9\$@(1% .%B977% .%#0>9%->, @\$/@9%->0879#.1% 34% #0>9%0`-, 3494%D69.\$/03.%0>%D6/::9.=%\$, >\$/3"%3% , #9% D6, >\$9>% X/3\$9>%D6, >\$9>%M) E' =% 34%03\$/36/3"%3%., 77%0?%

! [! U% EM)W']))n*% L,@67\$S% 979@\$94% /34/5/46,7%B>/\$\$93% -,-9>%/"3#93\$.%.% \$C9%493\$/?/94%>\$/?,@\$% ?0>%9#93\$6% [>,46,\$9%'708,7/:,\$/03% >68>/@%6.94%.% ,9#93\$%0076	#6>>93\$% \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	XC/19%, .\$%,9#93\$\#9\$\\ 893\text{893\text{\$\text{\$\color{0.89.67\$}}.\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	 ' M<%0?%\$6493\$.% #9\$%893@C#,>A% %% 1^#-79#93\$,\$/03%0?% [708,7%ZgF%-/70\$%

! [! U%]))*%0\$6493\$.% | +6>>93\$% **‰** 0->/3"M)EJ%Y,SB,>4%% [! U%]))\d3\d\m'\k% -, >\$/@/-, \$9%3%+Fa0^! % \93@C#,>A*\ E6%3\$>046@9% %39B%0>9% ./#67.\$/03%9#894494% J(<\%0?\%\\$6493\\$.\% /3%C9%, -.\$039% B/71%#99\$% @06>.9%h0%)EM 9`-9@\$,\$/03.% f9, 49>. C/-% @06>.9G\\0\$6493\$\\ E*%a>9-.>.\$/031%J < 0%M*%+03\$>/86\$/031%] E < 0% *%\$9, #. \%O?\% \%\0\%\\%\63\% \% 059>, 776% +0##63/@,\$/03\%3\% @0#-,3\$\\$C>06\C06\% d>", 3/:, \$/03.1\%0\% Z979", \$/031%J_<0% *%+03?7/@\$\R9.076\$/031\\\]E<\\ 46>, \$/03\%0?\@06>.9\% /3\$>046@9% 34%495970-% [>, 46, \$9\\0, 49>. C/-\\0\\ 79, 49>. C/-% 34% +6>>93\$%9.67\$.%COB%B9.A39..9.%3% \$9, #B0>A%68>/e%6.94% \$9, #B0>A% A/77.1%B>/\$\$93% a>9-,>,\$/031\\ 0\$/5,\$/031\\ 34\\ 2979\,\$/03\\ ,.%..9..#93**\$**\$007**6**% @0##63/@,\$/03% A/77.\\% E(% qU[% EM)%3@76494%9@\$6>9.%03%3?7693@9\% 0>,7\@0##63\@,\\$\03\%A\77.\\ \$>6.\$%86/74/3"\\% 34\%-,.../03\%-99@C\%P`9>@/.9.\% ... \$C9%/>.\$\@0>9\@06>.9\\\ >9D6/>/3"% %, 71%0% @\$/031%->05/494%9, 49>. C/-% MG/d??9>%9-9.\$94% 0--0>\$63/\$\$%0\pi9, 4\% \ri6\#-\pi\$, >\\$r\\#99\\$/3\\\\ ->, @\$/@9\r, @>0..\% ,4494Nc,@C%d391U9,@C%d39V%9`9>@/.90%,4494% @06>.9.Gr%099%\$C9%|\F% B>/\$\$93% .../"3#93\$%0%493\$/?\$%BC0%C9\$% >9% @6>>/@676#\\# . -G\\\ C97-/3"%0%#->0590%9/3?0>@94%#-0>\$, 3@9%0?% %a>05/49%6>\$C9>% @0339@\$/3"%B/\$C%0\$C9>.% 34%/34/3"%\$C9%'004%3% 495970-#93\$% 0\$C9>.0% 4494%9`9>@/.9.%03%9#-,\$C9\$/@% 0--0\\$63\\$S\\$C\>06\'C\\$C\9\% 7/.\$93/3"% 34%493\$/?\$/3"%0##03%08T9@\$/59.0% 39B%0>9%06>.91%h0% , 34\#/4\\$9\#\@C, 3\\94\\0\\9D6/\9\\4979\\, \\$/03\\ ') PN%a9"0\$/, \$/03% 34% . 34%677%- , >\$/@/- , \$/O3GMG% [! U% MM (% /3\$>046@94% >\$/@79%C,\$%0@6.9.%03%#67\$/1 +03?7/@\$\R9.076\$/03\\ @67\$6>, 7\mathbf{7}9, 49>, C/-\mathbf{8} 34\mathbf{4}/59>, /\mathbf{\$}\$0\mathbf{6}, 94\mathbf{8}'>06-\mathbf{8} ->9.93\$,\$/03%34%4/.@6../030%6\$/7/:94%\$9,#% \$9, @C/3"%0-/@%C, \$%3@7649.% #67\$/@67\$6>, 7\\"708, 7\\9, 49>. C/-\%

```
! [! U%]))*%0$6493$.% <u>+6>>93$</u>%
                                  0->/3"M)EJ%Y,SB,>4%% [! U%]))%3% %M(K%
->9-,>94% %''>06-%
                   \93@C#,>A*\
                   ->9.93$,$/03\%3\%C9\%
?0>#%0?% %0$0@ACO749>% B/77%#99$%
Z98>/9?/3"m/0?%C9/>%
                   9`-9@$,$/03.%
@0#-,3S%>0#%C9%
                   059>, 776%
+, -./#%/#67,$/03%
/3$9">, $94%3$0\$C9/>\%
                   a,.$%
@0##63/@,$/03%68>/@% M)E(1M)E'*\J)<\%
6.94%.%..9..#93$%
                   0?% $6493$. %B/77%
$O076%
                   #99$%
                   9`-9@$,$/03.%
%
                   059>, 776%
```

%

MZ*%0\$6493\$.%BC0%'>, 46, \$9%B/17%49#03.\$>, \$9%>0..1@67\$6>, 7% B, >939..% 34% .93./\$/5/\$\$%3%C9/>%3\$9>-9>.03, 7% 34%'>06-%0##63/@, \$/036%

%

UC9%39B%'0,7W/r+>0..1+67\$6>,7% +0##63/@,\$/03r%A/77.N%.%4494%0% \$C9%\F%->0">,#6%JB0%39B%0>9% @06>.9.N%\h0%)E%34%\h0%)PN/B/77% 89%3\$>046@94%60%@C/959%C/.%0fd6%

Z95970-#93\$%0?%
39B%68>/@%0>%39B%
79,>3/3"%08T9@\$/59%
-0.\$-0394%60%
M)E]1M)EP%
,@,49#/@%59,>%
H-0.\$-0394K6%

! "#\$%]))\(\pi, -./#\)
+0\(\pi-12\! \%34/5/46,7\)
86./39..\(\pi/\pi67,\\$/03\)
0-\(\pi/\pi/\);\(\pi/03\)\(\circ\)

! "#\$%]))% ')<%0?% F77%e, #-6.9.%% [! U%]))%M3%L%P'K%L,77%M)E'N% +, -./#%+0#-12! % .\$6493\$.%B/\(\bar{1}\)\(\bar{1}\) /34/5/46,7% .@0>9% 8059% 0->/3"%M)EJ=*% &<%#9\$%B93@C#,>A6% 86./39..% ')<% % 893@C#,>A6% R9.67\$.%C,59%#9\$%893@C#,>A%86\$%49\$,/7.%D?% ./#67,\$/03% ,..9..#93\$%C0B94%0--0>\$63/\$/9.%0>% 0-\$/#/:,\$/03% () <= 434% > 0,41/#->059#93\$6% % 8, .94%63@\$/03,7% EG%F++U% ME (% 4494%#0>9%#, \$9>/, 7%03% A30B794"9% #67\$/-791@CO/@9% % 864"9\$/3"GMG% qU[% ME(% 4494%39B%, .9% \$64SN% D69.\$/03.\\$, /70>94\% r+S89>4S39*%F%f9, -%0%C9%L6\$6>9Nr%BC9>9% \$0% ..9.. %F% .\$6493\$.%3,7S:9%4,\$,%\$0%0>9@,.\$\#,>A9\$\%49#,34\% () < = 6%\$0% 979@\$\\$, >''9\$\%

! [! U% ME(W']))*% L, @67\$S% 979@\$94% /34/5/46, 7%B>/\$\$93% -, -9>% ../"3#93\$.%, .% \$C9%493\$/?/94% >\$/?, @\$% ?O>% ..9..#93\$6% [>, 46, \$9%9\$C/@.%68>/@% 6.94% .% ..9..#93\$% \$OO76%

 $\begin{array}{l} E *\%493\$??/9.\%Z / 19\#\#, NME)) < WE)) < OMA^*\#+03./49>.\% \\ O\$, A9C0749>.NME)) < W] E < OMA^*\#-7\$9>3, \$/59.\%p% \\ +03.9D693@9.NME)) < W_] < OMA^*\#-7\$08.7\% / 59.Mp \\ PE < WP (< OMA^*\#-COO.9.\%, 3\%F@\$/03NMPE < WP (< OMA^*\#-1.000.9.\%, 3\%F@\$/03NMPE < WP (< OMA^*\#-1.000.9.\%, 3\%F@$/03NMPE < WP (< OMA^*\#-1.000.9.\%, 3\%F@$/03NMPE < WP (< OMA^*#-1.000.9.\%, 3\%F@$/03NMPE < WP (< OMA^**-1.000.9.\%, 3\%F@$/03NMPE <$

\(\frac{\93@C#, \armone{\A}; \=\"\}{\Sigma} \) \(\d59\), \(\tag{\B}\) \(\armone{\A}; \tag{\B}\) \(\armone{\A}\) \(\armo

EGM [! U%]))%../"394%,.9.%B/\$C%P\$C/@,7%
4/79##,.U%9/3?O>@94%'6/497/39.U%\$6493\$.% --75%%
.\$,A9C0749>1#,--/3"%)`9>@/.9%0%349>.\$,34%
/3?7693@9%D?%4/??9>93\$%\$,A9C0749>.%3%49@/./03%
->0@9..C%D\$6493\$.%->05/49%\$M9,.\$%BO%7\$9>3,\$/59.%
,34%%O,4#,-%B/\$C%O-9>,\$/03,7\\%79>3,\$/59.W
>9D6/>9#93\$.%34\\06\$@O#9.\%0>\%7\$9>3,\$/59.C\\000
0\$6493\$.\%5\\7/:9\\\$C\\09\\000
0\$6493\$.\%5\\7/:9\\\$C\\000
0\$6493\$.\%5\\7/:9\\\$C\\000
0\$7.769\\000
0\$7.79>3,\$/59.C\\000
0\$7.79>3,\$/59.C\\000
0\$7.79>3,\$/59.C\\000
0\$7.79>3,\$/59.C\\000
0\$7.79>3,\$/59.C\\000
0\$7.79>3,\$/59.C\\000
0\$7.79>3,\$/59.C\\000
0\$7.79>3,\$/59.C\\000
0\$7.79\\000
0\$7.79\\000
0\$7.79\\000
0\$7.79\\000
0\$7.79\\000
0\$7.79\\000
0\$7.79\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\000
0\$7.70\\00

(%)*\$+\$, -"./%0#+1%-&#)#%2%\$#&-3\$4%*5%\$#-*%1+&+"\$-43*+\$, -6789:678; -<3)*#%*:#":

 $(\%)^*\$+\$, -". /\%0#+1\%-8#)\#\%2\%\$\#\&-3\$4\%^*5\%\$\#-*\%1+\&+"\$-43^*+\$, -6789:678; -<3)^*\#\%^*:\#":\&\%2\%\&\#\%^*-0"\$1\%^*\&+"\$-)\$4-\#=\%-2"\&\#)\#\%2\%\$\#-=\%^*\%-*\%-?\%0\#\&-\#=\%-2"\&\#-3@-\#"-4)\#\%-1\%^*\&+"\A

;X/3\$9>M)E(=%c+dg%]P'*%L,@67\$S%979@\$94%34/5/46,7%

+06>.9*\% J) <\0?\% Z95970-/3''\% _____*\\%

M) E&1E (%F++U% .\$6493\$.% Fdf% ''_) N% B/77% @0>9% OS.\$9#%

.979@\$94% , 8059%J (<% 9`,#% ->0?/@/93@\$% D69.\$/03.\$% 893@C#,>A%

M)E(1E'%F++U%

''E_N%

. 979@\$94%

9`,#%

D69.\$/03.%

+06>.9*%F@@\$%])<%O?%	Z95970-/3"%	%06##9>%	%	%
+002.9 // **** '''')	.\$6493\$.% B/T1%#99\$% 9`-9@\$,\$/03 .%03%059>,71% >68>/@% .@0>96%	293910-73 % Fdf% 0S.\$9#%	% U>, /\$%/E*%493\$/?/9.% c\$C/@, 7% /07, \$/03.MPJ <% U>, /\$%/M*%F3, 7S.9.% +03.9D%0?%c\$C/@, 7% i /07, \$/03.MPJ <% U>, /\$%/_*%# -, @\$%0?% c\$C/@, 7% /07, \$/03.MPM <% % — %Fw% M) E(WM) E' *% 1%R95/.9%C9%68>/@.%\$0% /3@7649% -9@/?/@, 7TS% , @@063\$/3"%9\$C/@, 7% 5/07, \$/03.% 34%C9/>% /# -, @\$6%	% U>,/\$%/E*%493\$/?/9.% c\$C/@,7%i/07,\$/03.N% E))<% U>,/\$%/M*%F3,7S.9.% +03.9D%0?%c\$C/@,7%	M) E] WM) EP* R95/.9%->019@\$% 34%68>/@.*% c\$C/@.% 34%F64/\$/3''% 34% L, @67\$\$%B/M%B0>A%0''9\$C9>% \$0%49./''3% %->019@\$%\$C, \$%B/M% @, -\$6>9%->0?9/03, 7%9\$C/@.% >9D6/>9#93\$.% 34%+aF% 9`, #%9D6/>9#93\$.%03% 9\$C/@.6%UC9\$%B/M%7.0% >95/.9%\$C9%0fd.% 34%68>/@.% 03%9\$C/@.%\$0%9%\$C/.%afd% 89\$\$9>6%

+06>.9*%F@@\$%])<%0?% Z95970-/3"% 06##9>M)E(% 06##9>MM)E'% ''')\\\ Fdf%0S.\$9#% .\$6493\$.% ^3.\$>6#93\$*% B/77%#99\$% 9`-9@\$,\$/ ^34/5/46,7% % a. -9>%03% 03.%03% E*%JC9./.Wd-93/3"N/PM<09M*% 9\$C/@.\%3\%F++U\% 059>,77\% d>"%p%f0"/@N%]P<0% *% ''')% >68>/@% 0-977/3"\%[>,##,>\% X>/\$/3"%c>>0>.\\\P&<\\\\\\\\\\ c`\$9>3,77S% .@0>96% 093\$93@9%0\$>6@\$6>9\\\P(<\\% , 40-\$94% (*%26>-0.91%PJ<% >68>/@%M)E&1 E(=% R68>/@.% **‰** >95/.94%0>% Fw%M) E (WE' %p%M) EJWE]*% M)E(1E'% 1%+0hc\% 770B.% \$6493\$.%\$0% ,..9..#93\$0% ., \$/.?S%C9%n3/59>./\$S% X>/\$/3''%0A/77.% R9D6/>9#93\$.%hX0R=% 6./3"%[! FUW[Rc%B>/\$/3"% .@0>9.6%X9%,/.94% , 4#/../03%9D6/>9#93\$.%0% , 4#/\$% \$6493\$. %B/\$C%C/"C9>% , 3,7\$\$/@,7%B>/\$/3''%@0>9.% 03%[! FUW[RcN% 0%C9% , 4#/\$\$94%\$6493\$.%B/77% C, 59%'004%B>/\$/3''% A/77.6% 1\mu) E (1E' \mathbb{\text{(J}<\mathbb{\mathbb{\pi}} 4\mathbb{\max}\}\emty\dan\bmathbb{\math}\m{\mathbb{\math}\m{\mathbb{\mathbb{\mathbb{\mathbb{\mathbb{\mathbb{\mathbb{\math .\$6493\$.%,\$/.?/94%C9% hX0R% 1%M)EJ1E]%JM<%4#/\$\$94% .\$6493\$.%,\$/.?/94%C9% hX0R‰

			3\$.6% F.9
"U! % MJ_*%L, @67\$S% @CO.9%34/5/46, 7% .\$6493\$%/"3#93\$%0% ,9%6./3"%\$C9% 49-, >\$#93\$% 495970-94%68>/@MJO% ,9% 45, 3@94% A30B794"9% 34% A/77.1% ?, @67\$S%CO.9% 3% /34/5/46, 7% ->0">, ##/3"% ,/"3#93\$G%	J) < 10?% \$6493\$.% B/11%#99\$% 9`-9@\$,\$/03.303% 059>,71%68>/@% .@0>96%		%
			%
! [! U% E' (*%L,@67\$S% @CO.9%34/5/46,7% .\$6493\$%/''3#93\$%\$0% ,9%6./3''%\$C9% 49-,>\$#93\$% 495970-94%68>/@C%	J) < 10?1 \$6493\$. B/1111# 99\$% 9`-9@\$, \$/03.303% 059>, 171668>/@% .@0>96%	% ECM 04/?/@, \$/03.%\$0%\$007.%6.94%\$0%,9% 06\$@0#9%	%

				%
^U! %]PP*%L, @67\$S% @CO.9%34/5/46,7% .\$6493\$%/''3#93\$%60% ,9%6./3''%\$C9% 49-, >\$#93\$% 495970-94%68>/@C%	J) < %0?% \$6493\$.% B/T1%#99\$% 9`-9@\$, \$/03.%03% 059>, T1%68>/@% .@0>96%			%
		7,,	L	%
^U! %]PP*%L, @67\$S% @CO.9%34/5/46,7% .\$6493\$%/''3#93\$%60% ,9%6./3''%\$C9% 49-, >\$#93\$% 495970-94%68>/@C%	J) < %0?% \$6493\$.% B/77%#99\$% 9`-9@\$, \$/03.%03% 059>, 77%68>/@% .@0>96%			%

I I	

•

l			