

!"#\$%&'\$() *+
 #12#34P&! ' (%
 , * - & . .) * + , & / % 0 1 2 3 \$ +
 #0B,88K0%3Q6C*-;G;,%+0%#12#34%
 , * - & . .) * + " " # \$ % & ' \$ 4 * " \$ +
 #; / E; %R6M*6, / ; %
 S0; =; %!6=C; / - %
 , * % 0 \$ 3 0 * . +
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 2ETU\VVW\9XX>XX%
 3)B; ,EU%0,C0C,-C6BYHB; ,E0C0B%
 C,-C6BYE6-/;80*D0D-%

\$8% ! " # \$ % & ' () * (+ % , * ' - # . & / 0 1 (+ 0 % # 1 2 # 3 4 % - A B % C 0 B 0 % D / , = C , D ; E %
 0 < F 6 C - , G 0 % 0 % + 6 < ; - 6 7 % ; E ; / H ; + 0 % 6 % - / ; = 8 + , 8 C , D E , = ; / 7 % + 6 % D / 0 < E 6)
 B I - , C ; 8 % + 6 % , = G 6 8 - , H ; J K 0 7 % = 0 % 8 6 = - , + 0 % + 6 % C / * L ; / % M * 6 8 - N 6 8 % - 6 .)
 / , C ; 8 % 6 % B 6 - 0 + 0 E . H , C ; 8 % 6 % / 6 8 * E - ; + 0 8 % + 6 % D 6 8 M * , 8 ; 0 %
 \$ 8 % ! " # \$ % & ' () * (+ % , * ' - # . & / 0 1 % + 0 % # 1 2 # 3 4 % C 0 = 8 - , - * 6 B 7 % D 0 / % , 8 8 0 7 %
 * B % 6 8 D ; J 0 % + 6 % , G * E H ; J K 0 % 6 % + , 8 C * 8 8 K 0 % / 6 H * E ; / % + 6 % D / 0 F 6 C - 0 8 %
 + 6 % , = G 6 8 - , H ; J K 0 % , = + , G , * + , 8 % 5 - 6 8 6 8 % + 6 % B 6 8 - / ; + 0 % 0 * % + 0 * - 0 / ;)
 B 6 = - 0 7 % D / 0 F 6 C - 0 8 % + 6 % D . 8) + 0 C 7 % 6 - C 0 8 % 0 * % C 0 E 6 C - , G 0 8 7 % + 0 8 % , = G 6 8)
 - , H ; + 0 / 6 8 % 6 % C 0 E ; < 0 / ; + 0 / 6 8 % + 0 % # 1 2 # 3 4 % D 0 + 6 = + 0 % ; 8 8 0 C ; / % , =)
 G 6 8 - , H ; + 0 / 6 8 % + 6 % 0 * - / 0 8 % C 6 = - / 0 8 % 0 * % * = , G 6 / 8 , + ; + 6 8 % = ; C , 0 = ; , 8 %
 6 P 0 * % 6 8 - / ; = H 6 , / ; 8 0 !

3=- / ; + ; % ! , G / 6 %
 0,CC,-C6B0Z,Q8,-60C0BP0T,C,=;8C,-C6B!

OFICINAS DE INVESTIGAÇÃO CITCEM 22/23

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

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-." / + " +) 0 % * " & 1)

2&#%#")03+"+4)

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, % \$ * -) & \$ + ,) (. *) \$ / +

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&! ' (%) \$ * + , - . / , 0 % # 1 2 # 3 4 % 5 2 0 / 1 6 % \$ 7 % (, 8 0 % 9 7 % : ; < , = 6 - 6 ! > > ? @ %

!"#\$%&%!

!"#\$%!!"#\$%\$&'!()*,!%+-*./&0-!(1\$%&

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

2%1.++#1#!*+!2%+#+#3&/0!+!+!.4%&*1%&!2+3456757+

!895:;+

!"#''+"#\$%\$&'()&#!*)(\$&)#!+564&5\$1!-+%%&, +5\$&#!

+!#4#\$+5\$&7)0)&*+!2&&!1#!, 4#+4#!9!.&#!*+!

+#\$4*1!*&!\$%&5#-1%, &/0!*)(\$&)#!*1#!: 4#+4#!

; &.)15&)#!+, <1%\$4(&!2<: =8=5+! >757?

!'#!'&=#!21\$+5.)&8)*&*+#!*&!\$+.5181()&!*+!

>+&8)*&*+!=4, +5\$&*&!51!*+#+53183), +5\$1!*1!

*)#.4%#1!, 4#+1(%?-.1!&64+18@().1!9!1!.&#!*1!

<&%64+!=%64+18@().1!*1!A&8+!1!BC&!2+-5@AB!787+

*?C: @57+

!'#\$'\$&, :67B:&

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

!"#!\$#\$%\$&'#()%

*+, -., +/0/-1%(234052%6-/37/+2%8-9/(2,59/%:48-7+570-%

; <2+, /%-0-%\$73-2%05%(28-3=,495%>(: ; \$ (?@%1-237-%-1%A7+B

/CD5%\$73E23+, /%A5.3-1857F.- /%8-9/%G.+H-72+0/0-%0-%

\$H-+75%I%' -8/73/1-.35%0-%A514.+, /CD5%- %\$73-%

>G\$J' -A\$?%-1-237-%-1%; 42-595K+/%8-9/%L/,490/0-%0-%

*-37/2%0/%G.+H-72+0/0-%05%M5735%>L*GM?%\$34/91-.3-%O%

P592-+7/%0-%+.H-23+K/CD5%LA6JAQ6A(; %5.875K7/1/%054B

357/9%-1%Q.R571/CD5%-A514.+, /CD5%-1%M9/3/R571/2%' +B

K+3/+2@,4725%,5.\$4.35%0/%L*GM%- %G\$J' -A\$N%67/P/9T54%

,515%30., +, /%248-7+570-%/CD5%,49347/9%-%-28-3=,4952%. /%

AF1/7/%; 4.+, +8/9%0-%UH/7%-@%- .37-%VWXY%- %VWVX@,59/P5B

754%,515%142-Z95K/%.5%; 42-4%(2,59/7%U9+H-+7/%*58-2%

5.0-@8/7/%/901%0/%.571/9%87=3+, /%142-59ZK+, /@R5+%/+1B

8492+5./057/%0/%,7+/CD5%0-%41%2-7H+C5%-04,/3+H5N%

%

!"#\$%#&'(%)*('(#%(")*+)% , (-.(/01)+ ,)2\$1.+""1")*+3

""+\$4/(01)+)*+.5\$%*1\$%(%

\$!87-2-.3-%,514.+, /CD5%7-2493/0-%41%875S-35%0-%+.H-23+B

K/CD5%-1%,4725%[4-+%.3-K7/%=7-/2%0+23+.3/2%-+%.3-7,-3%.B

37/30K+/2%0-%K/1+R+, /CD5@,51%- \-18952%87=3+,52@37/]-.05%

8/7/%/-\8-7+^..+,/%5PS-3+H52%0-%/87-.0+]/K-1%0-R+.052%[4-%

H-72/1%25P7-%/9K41/2%[4-23_-2%0-%87-2-7H/CD5%- %0-%,47/B

057+/%.5#+.3-7+57%0-%41%/+%.23+34+CD5%142-59ZK+, /N%:/9+-.3/B2-%

3/1P01%5%875,-225%0-%875353+8/K-1%0/%-\8-7+^..+,/%0+K+3/9%

K/1+R+, /0/@,4S/%-9/P57/CD5%3-1%,515%R+. /9+0/0-%1-9T57/7%5%

-.H59H+1-.35%-%7-3-.CD5%0-%,5.T-.,+1-.352@%150+R+, /%.05@%

-H-.34/91-.3-%@/%8-7,-CD5%052%H+2+3/.3-2%25P7-%5%37/P/9T5%

+.H+2EH-9%0-%P/23+057-2%-1%142-42N%\$22+1@%1 /+2%05%[4-41%

8522EH-9%0-2-.T5%,5.,94E05@%O+H49K/1B2-%/2%-3/8/2%\$=-R-34B

/0/2@%52%0-2/R+52%0+K+3/+2%+0-.3+R+, /052@%/2%0+R+,490/0-2%-B

,5.37/0/2@%P-1%,515%41%,5.\$4.35%0-%87=3+, /2%- \-[4EH-+2%-%

.-, -22=7+/2%8/7/%5%0-2-.H59H+1-.35%0-%8753Z3+852%0+K+3/+2%

K/1+R+, /052%-1%142-42N%

%

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(U&U##\$; \$#\$%

Q.H-23+K/057/%,59/P57/057/%.5%AQ6A(; BL*GMN%*+, -., +/0/%-1%

`+23Z7+/0/0/%\$73-%-%1-237-%-1%; 42-595K+/%8-9/%L/,490/0-%0-%

*-37/2%0/%G.+H-72+0/0-%05%M5735%N(1%VWVX%7-., -P-41/%; -B

CD5%`5.752/%. /%, /3-K57+/0-%(234052%0-%; 42-595K+/%052%M70B

1+52%\$MU; %8-9/%0+22-73/CD5%6")7, 2%.#1")*)%859#5\$%): ('(%#6)

+ ,) ; 5"+5"%<= ,)+"#5*1)"1>\$+)%).1 , 5?.(%/01)*('(%#6)*1") ; 53

"+"5")@%.(1?%(")+ ,)A1\$#5'%6N%' -20-%VWVX%0-2-.H59H-+%.H-23+B

K/CD5%0-%054357/1-.35%. /%=7-/052%(234052%05%M/37+1Z.+5%

I% ; 42-595K+/@%- .[4/.35%P592-+7/%0/%L4.0/CD5%8/7/%/A+^..+/%

-%6-.595K+/N%'-20-%-.3D5@%\$=,5.3/%,51%87504CD5%,+- .3ER+, /%

-%/%8/73+, +8/CD5%-1%/9K4.2%,5.K7-2252+.3-7./, +5. /+2@%0-%-B

37-%52%[4/+2@%05%A5., -9T5%Q.3-7./, +5. /9%0-%; 42-42%>QAU; B

A(A\$?%-0/%#-0%0-%; 42-52%a%(237/3-K+/2%' +K+3/9-2%>#(; ('?N%

)

!"#\$%#&'(%) *('(%%(" +?B5%?#1 -+\$\$%, +?#%") *+)

"5"#+?#%>(9(*%*+) 2%\$%) 1") , 5"+5") C).%1") *+)+"#5*1) *)

#\$%?"-1\$, %/01)*('(%#6)*1") ; 5"+5")@%.(1?%(")+ ,)A1\$#5'%6)

M75,-0-.05%/41%/P570/K-1%-1%357.5%0/%-H594CD5%052%

4.+H-7252%05%8-.2/1-.35%3-.,59ZK+,5%-%05%14.05%0+K+3/9@%-%

b2%24/2%,5.2-[4-.3-2%37/.2R571/C_-2%.5%F1P+35%0/%/CD5%-%

8/73+, +8/CD5%.5%051E.+5%25,+5,49347/9@%-23/%7-R9-\D5%875,47/%

,5187--.0-7%52%+18/,352%0-23/2%[4-23_-2%. /%-H594CD5%05%

,4187+1-.35%0/2%24/2%1+22_-2%-%b%87-2-7H/CD5%0/%24/%

7-9-HF..+, /N%\$%8/73+7%0/%/. =9+2-%,7E3+, /% /5%-23405%0-%, /25%

5.0-%2-%875,47/7/1%+0-.3+R+, /7%9+.T/2%0-%+.3-7-22-%-%

0-2-.H59H+1-.35%0+K+3/9%-1%142-42@%87-3-.0-B2-%0+2,43+7%

52%7-2493/052%5P3+052@%+0-.3+R+, /7%9/,4./2@%.-, -22+0/0-%-%

9+.T/2%0-%/CD5@%P-1%,515%-[4/,+5. /7%5%0+K+3/9%-.[4/.35%

R-77/1-.3/%0-%2423-.3/P+9+0/0-%R4347/%8/7/%52%142-42N%

%

%

A#Q:6Q\$&\$%U*q*d(Q#\$%

'54357/.0/%-1%Q.R571/CD5%-A514.+, /CD5%-1%M9/3/B

R571/2%' +K+3/+2@%8-9/%G.+H-72+0/0-%0-%\$H-+75N%!592-+7/%

0-%054357/1-.35%8-9/%L4.0/CD5%8/7/%/A+^..+/%-%/ %

6-.,595K+/N%>LA6?@%,51%5%875S-35%e(\8-7+^..+/%,514.+B

, /, +5. /9%142-5K7=R+, /%1-0+/0/%857%#- /9+0/0-%\$41-.B

3/0/%.5%,5.3-\35% /7[4-59ZK+,5f%>VWVXN%ghh iN! '?N%

Q.H-23+K/057/%05%' +K+; -0+/ %1%' +K+3/9%; -0+/ %/.0%Q.3-B

7/,3+5.@%3-1%,515%=7-/2%87+. ,+8/+2%0-%+.3-7-22-%/ %-\B

8-7+^..+/%05%43+9+]/057@%+.3-7/CD5%T41/.5B%

,51843/057%-%7-/9+0/0-2%1+23/2@%87+. ,+8/91-.3-%

[4/.05%+.3-72-,3/052%,51%5%051E.+5%142-5K7=R+,5N%

)

D")21#+?.(%9(*%*+)*%#+.?191'(%)*+)%E+9@(*%*+)+D5, +?#%*%)

?1)*+""+?4194(, +?#1) *1)*("5\$1") , 5"+1'\$F-(.1)%\$B5+19G3

'(.1)C1).%1")*1)A%\$B5)+D\$B5+19G'(.1)*1)H%6+)*1)81%)

A514.+, /7%2E3+52%/7[4-59ZK+,52%/5%/7%9+H-%/ %0+H-7252%

8<P9+,52%0%41 /%7-285.2/P+9+0/0-%03+, /%0/%+.H-23+K/CD5%

/7[4-59ZK+, /@%-23/P-9-, +0/%3/.35%/ %EH-9%./, +5. /9%8-9/%

9-K+29/CD5%05%37/P/9T5%/7[4-59ZK+,5@%,515%/ %EH-9%+.B

3-7./, +5. /9%857%.23+34+C_-2%,515%5%QAU; N%M5701@%-2B

3-2%94K/7-2@%/8-2/7%0-%,5.-,3/052%/41/%-\8-7+^..+/%

+.3-.2/@%2D5%3/1P01%,5.2+0-7/052%0-%0+RE,+9%,5187-B

-.2D5%8/7/%52%8<P9+,52%.D5%-28-, +/9+]/052@%857%14+3/2%

H-]-2%2-37/3/7%0-%R7/K1-.352%0-%/73-R/,352%,51%1<93+B

89/2%+.3-787-3/C_-2%,+- .3ER+, /2N%Q0-.3+R+, /%.05B2-%/+%.0/%

[4-%/ %,5.2374CD5%05%0+2,4725%2-%0+23/. ,+/%0/2%57+- .B

3/C_-2%142-5K7=R+, /2%/189/1-.3-%/89+, /0/2%/ /1P+B

-.3-2%,5.3759/052%+.3-7+57-2N%M-7/.3-%-23-%, -. =7+5@%. /%

87-2-.3-%,514.+, /CD5%0%0-23/, /05%5%8/8-9%/34/9%[4-%

/ %3-.,595K+/0-%#- /9+0/0-%\$41-.3/0/%>#?\$%3-1@%,515%