
Ed ca ion

! "#\$% ! "#\$%&" ! " ' (#)\$ (# (*\$(*+\$)# ' ,)" - # . % # (* / ' #)%&'()*+ ,(-. %/0% 1 2+. 32 '4\$%5 /33*6*% ! 2+7\$%
1 #899: %
!
! ; \$% ! "#\$%&" ! " ' (#)\$ (# (*\$(*+\$)# ' ,)" - # . % # (* / ' #)%&'()*+ ,(-. %/0% 1 2+. 32 '4\$%5 /33*6*% ! 2+7\$%
1 #899<!
!
! = ; \$% ;) * + * - % 5 / 33 * 6 * % > . , / ' ? , % 5 / + ' * + \$ % @ ; \$ % 899A %
!
! = B \$ % + / ! 0 % (" &) % ' 1 * ' " " & * ' 1 \$ % & ' () * + , (- . % / 0 % C 33 (' / (, \$ % & + D 2 ' 2 \$ % C E \$ % 89 : F %
%

Emplo men

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I /+2)(2'%'&'()*+ ,(-.%
BG"//3%/0%=H,('*,%2'4%IG/'/J(G,% !
!
, / % ' , * ' 1) - " # ' #

P blica ions

! <9=>?@ABC#!8I!T() (3XI! / ?@! ^ 9YB! - A=HJ;! ^ ? :YK! ' 9>J=!; ?L!B!J!\$B9:!?U!AB=!\$B?:;I!!
NHGABJK!S]9[BJ:U?:! ^];!Z]J! ' 9D!S! ' 9BBJ:=I! ` ? F9H!g!\ABBYJUAJYKI! . S SJ [BJK!U?:![LVYAS9BA?H!
() (MI!T [JJ:+:JGAJ@JKX!
!
! <9=>?@ABC#!8I!T() () XI! 2LB!N! ^ ? :>JK!=?! / 9:Kc!M! . SBA?H!\$BJ [=!B?!Z9>J!B?! . G?AK! 1 ?=BY;!
%::?:=!AH!h ?L:!2L=AHJ==I!

%
 % / JHKJ:=?H#!ZI2I#!g!<9=>?@ABC#!8I#!\$9AHB!\9L:AJ! ' J:S]9HB!Z9AY?:=c!! 19=J!\$BLK;!I!
 &:J=JHBJK!9B!B]J!()*)!9HHL9Y!FJJBAHD!?!U!B]J! - A:JSB! ' 9:>JBAHD!%KLS9BA?H9Y! , ?LHK9BA?H!19=J!
 \$BLK;!1?F [JBABA?H7!5#![Y9SJ!@AHHJ:!!\$9H! , :9HSA=S?#!PSB?VJ:!()) *!T [JJ:+:JGAJ@JKX!
 %
 % <9=>?@ABC#!8I#!nNHG?YGFJFJHB!9HK![L:S]9=J!AHB!JHB!?!H!B]J!@Jv!!A F [: ?GAHD!B]J!
 [J:SJ [BA?H=!!?U!9H!AHB!HJB+V9=JK!=J:GASJ![:?GAKJ:Io!!&:J=JHBJK!9B!B]J!()M!FJJBAHD!?!U!B]J!
 - A:JSB! ' 9:>JBAHD!%KLS9BA?H9Y! , ?LHK9BA?H#! . BY9HB9#!PSB?VJ:!()) MI!T [JJ:+:JGAJ@JKX!
 !
 % <9=>?@ABC#!8I#!n . !S?F [9:A=?H!?!U!9=J==FJHB!G=I!U:JJ!J+V??>!U?:!AHS:J9=AHD!?!B+AH!B?!
 [J:F A==A?H!F9:>JBAHD!?!U!9!S?9S]AHD!=J:GASJ=!VL=AHJ==Io!!&:J=JHBJK!9B!B]J!()3!FJJBAHD!?!U!B]J!
 - A:JSB! ' 9:>JBAHD!%KLS9BA?H9Y! , ?LHK9BA?H#!QJ@!P:YJ9H=#!PSB?VJ:!()) 3!T [JJ:+:JGAJ@JKX!
 %
 % <9=>?@ABC#!8I#!n\$B:9BJD;!G=I!Z9SBAS=!R! ' 9:>JBAHD!2L=AHJ==!AH!B]J!\J]AD]!_9YJ;Io!!
 &:J=JHBJK!9B!B]J!()3!FJJBAHD!?!U! . ==?SA9BA?H!?!U!&JHH=;YG9HA9! a HAGJ:=AB;!2L=AHJ==!9HK!
 %S?H?FAS=! , 9SLYB;#!\$B9BJ!1?YYJDJ#!& . #!PSB?VJ:!()) 3!T [JJ:+:JGAJ@JKX!
 !
 ! <9=>?@ABC#!8I#!n . H!Jf9FAH9BA?H!?!U!J:!:?!AH!N`Z!ABJF! [9:9FBJB:!!J=BAF9BJ=!!H!YAH>AHD!
 9HK!JjL9BAHD!L=AHD!B]J!B]J=B!S]9:9SBJ:A=BAS!SL:GJ!FJB] ?KIo!!&:J=JHBJK!9B!B]J!9HHL9Y!FJJBAHD!?!U!
 Q9BA?H9Y!1?LHAS!PH! ' J9=L:JFJHB!AH!%KLS9BA?H#!QJ@!P:YJ9H=#!())) I!T [JJ:+:JGAJ@JKX!
 !
 ! 2Y?B>9F [#! ^ I!9HK!<9=>?@ABC#!8I#!n . H9Y;=A=!!?U!9HK!:JS?F FJHK9BA?H=!!U?:!A F [: ?GAHD!
 9KJGJ:BA=J:!=9BA=U9SBA?H!Io!!&:J=JHBJK!B?12JYY! . BY9HBAS! - A:JSB?:AJ!=\$JHA?:! ' 9H9DJFJHB! ' JJBABD#!
 ' AKK!JB?H#! ' . #!())) I!T [JJ:+:JGAJ@JKX%
 !

Selec Unp blished Research

!
 % <9=>?@ABC#!8I!T"66*XI!!&:?[?9Y!U?:c!!9!=BLK;!?!U!B]J!JUUSJB=!?!U!H?HYAHJ9:K9B9?!H!B]J!
 :?VL=BHJ==!!?U! [9:9FBJB:!!J=BAF9BJ=!!V99AHJK!V;9!AJ:9:S]AS9Y!YAHJ9:!!F?KJY!
 !
 % <9=>?@ABC#!8I!T"66MXI!!Z]J![:JKASBA?H!?!U!F9B]!9HK!=SAJHSJ!9S]AJGJFJHB!U?:!4\$%D:9KJ!
 =BLKJHB=c!!9H!JF [A:AS9Y!S?F [9:A=?H!?!U!KA=S:AF!AH9HB!9H9Y;=A=#!FLYBA [YJ!:JD:J==A?H#!9HK!HJL:9Y!
 HJB@?:>=I!
 !
 % <9=>?@ABC#!8I!T"66MXI!!&:?[?9Y!U?:c!!B]J!A F [9SB!?!U!9!AD]+[J:SJAGJK!G9Y!LJ!AHSJHBAGJ!?!H!
 =L:GJ;!:J=[?H=J!9F?HD![:?UJ=A?H9Y=I!
 !
 % <9=>?@ABC#!8I!T"66MXI!! a=AHD!HJL:9Y!HJB@?:>=!!U?:!JG9YL9BA?H!?!U!S?F [YJf!:=;=BJF=I!
 !
 % <9=>?@ABC#!8I!T"663XI!! . K9[BAGJ!S?F [LBJ;!AH=B:LSBA?Hc!!]A=B?:;#FJB] ?K=#9HK!
 FJ9=L:JFJHBI!
 !
 % <9=>?@ABC#!8I!T"663XI!!Z]J!KJBSBA?H!?!U!=ADHAUAS9HB!F?KJ:9B?:!JUUSJB=!AH!FLYBA [YJ!
 :JD:J=A?H!B] :?LD]!?:KAH9:;!YJ9=B!=jL9:J=!9HK!:AKDJ!:JD:J=A?Hc!!9!=AFLY9BA?HI!
 !
 % <9=>?@ABC#!8I!T"665XI!!&J:=?H9YAB;!9=J==FJHB!AH=B:L FJHB=c!!9H!AHB!JD:9B!JK!S:ABAjLJ!?!U!
 U9SB?:!9H9Y;=A=:J=J9:S]I!
 !

S den Research

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

! ! ! ! `JGAJ@J:~9HK!KA=SL==9HB!U?!. FJ:AS9H! ' 9:>JBAHD! . ==?SA9BA?H! ^ AHBJ:~!%KLS9B?:=!
1?HUJ:JHSJ#!2:9HKAHD!Z:9S>I!!\$9H! . HB?HA?#! , JV:L9:;#!()MI!!!

Media Appearances

Q24(/%2'4%>@%, "/P, %

M0"M0")!R!9SLYB:!:JF9:>=B?B]JJD:9KL9BJ=c! ' ? :9GA9H! 1 ?YYJDJ! 1 ?F FJHSJF JHB!T[?=BJK!@AB]!
[J:F A==A?Hc! ' ? :9GA9H! 1 ?YYJDJX!

*030")!R!^ Q ^ `+ . ' ! "M3)!&]AY9KJY[]A9!R!n2 ?V! ` ?GHJ:~Z9Y>=B?B]J!\$B9:=o!

00((0")!R!\$B9:=! ?U!& ` !@AB]!1AHK:~! I!

00(50")!R!' 9AH!\$B:JJB! ' 9BBJ:=!T[?=BJK!@AB]! [J:F A==A?HX! . K:AJHHJ! - !!8:919F!0!1 1!2 h+Q - !
5I)!

60"00")!R!\$]J:F9H!29YK@AH!\$]?@!R! ^ Z ' h+" (4)!R!\$9:9=?B9#!, \!

60((0")!R!- :J==J:~! . UBJ:~! - 9:>!

60(40")!R!\$BJGJ! - J9SJ! =]?@!R! ^ / P+")3)!R! - J=! ' ?AHJ=#IN . !

60(60")!R!h ? :>=! ' ? :HAHD!QJ@=!]@AB]!89:; ! \$LBB?H!9HK!kAF! / ? :H!R! ^ \$ 2 . +6")!R!h ? :>#!& . !

")0(0")!R! - ?LD!1 YAUU?:K!\$]?@!R! ^ \$ < h+ , ' !R!89AHJ=GAYYJ#!, \!

")0"40")!R!\$]J:F9H!29YK@AH!\$]?@!R! ^ Z ' h+" (4)!R!\$9:9=?B9#!, \!

")0"60")!R! , ?f!" (0)!AH!B]J! ' ? :HAHD!@AB]!&9H9 F9!R!< 2pp!R!" (0)!R! ` JH?#!Q_!

")0(30")!R!&J:=[JSBAGJ=!@AB]!29:; ;!\$]9AHV9LF!R!1 kZ ^ !R!63I5!R!<ABS]JHJ:#!P HBI!

")0(00")!R! ` AS]9:K! . HB?YLSSA! =]?@!R! ^ Qk1!R!"5*)!R!&]AY9KJY[]A9#!& . !

")0(40")!R!Z9Y>! ?U!B]J!Z?@H!@AB]! ' A>J! ^ 9Y=]!R! ^ aZp!R!26MIM!R!aBAS9#!Qh!

")0(60")!R!Z]9B! ' 9:>JBAHD!\$]?@!R! 1AHS AHH9BBA#!P / !

" "0)"0")!R! ^ AVABC!\$BJL9:B!\$]?@!R!< . PN!R!6MI" !R! ^ 9AYL>#! / N!

" "0)"0")!R! ` ?H! ` ?=!]\$]?@!R! ^ k2 1#!!2Y??FAHDB?H+Q?: F9Y#N \!

" "0)60")!R! , :AHDJ=! ` 9KA?!\$]?@!R! . ' !"3))!R!& :?G?#!aZ!

" (0)00")!R!h ? :>#m=! ' ? :HAHD!QJ@=!]@AB]!89:; ! \$LBB?H!9HK!kAF! / ? :H!R! ^ \$ 2 . !6")#h ? :>#!& . !

)"0"00""!R! - 9H! ' 9HYJ ;#! ' ? :HAHD=!?H! ' 9AH!R! ^ ' \$Z#!<JHBLS> ;!

)"05"0""!R!. UBJ:~! ' AKHAD]B!@AB]! ` AS>]29:VJ:~!R!4M)!<P . #! - JHGJ:~! 1 P!

!

) (0"*0""!R!n2:9AH=B?: FAH!@AB]!2AYY; !B]J!2:9AHo!R!<<pp+ . ' !"3))#!_JHBL:9!1 ?LHB;#11 . !

)00(M0" (!+!n1L=B? FJ: =!L=AHD!@9YYJB=!B?! F9>J!=B9BJ F JHB=!U?:09D9AH=B!1]A>+ , AY+ . o!R!k9SSAA!
,9::A=#! ^ , ' p+*6!QJ@=#!\J]AD]!_9YYJ;#!& . !TZ_X!

)40(00" (!+!n - ?SLF JHB9: ;! ?H!29:9S>!PV9F9!D9AH=!B9F!9B]J]V? f! ?UUASJo!R!k9SSAA! ,9::A=#!
^ , ' p+*6!QJ@=#!\J]AD]!_9YYJ;#!& . !TZ_X!

!+('-%KHD3(G2-('/ ,%

'?:9GA9H!\$BLKJHB=! - JGJY?[AHD!2:9HK!19F[9ADH=!U?:!,AGJ!\J]AD]!_9YYJ;!P:D9HAC9Ba?H=!

n'?:J]B]9H(3))!=9YLB]JK!9B!'?:9GA9H!1?YYJDJ!8:9KL9Ba?Ho!R!Z]J!%f[:J==ZAFJ=!TM0"*0")X!

n1?F FJHSJF JHB!(")!9!\$]AHAHD! - 9;o!NH1?F F?H!R!T*0")X!

n'9::!h?LHDc!PV9F9!G?BJ: =!9HK!VL;J:m=:JF?:=Jo!R!Z]J!`J9KAHD!%9DYJ!TO050")X!

nPV9F9!VLAYB!9!V:9HK!B?!=JYY!]AF=JVU!B?! . FJ:AS9o!R!%9=B]J:H!&JHH=;YG9HA9!2L=AHJ==!k?L:H9Y!
TO0M0")X!

n\9K;!89D9c!iLJJH! ?U!=9F[YYJ: =!&? [!=L[J]:=B9: !V?: :?@=!U: ?F!B]J!VJ=Bo!R! . :AC?H9!`J[LVYAS!
TO0(M0")X!

nPV9F9!]9=!B:9;JK!U: ?F!S9F[9ADH!FJ==9DJo!R!Z]J!'?:HAHD!19YY!TO0(*21TfcTj Em / TT2 1Tf[(T*)191Tm92cm00042 /

