

!"#\$%&'()\* &  
+,\$-".#-/0&1,/2) &

!

!"#\$%&'(  
!

"#\$%&'()\*%# \$+!, '\$-./, '\$-0!\$%!.-%\$12.-(!)!3%%\$%(!(#.14%)()2!5)66.1.!7)88'2\$(9!)!-.(\*8\$2.!3'(#)\*%#\$+!32-!()!+\*.:2(!)\*!.%)6:!.13'(#)\*%#\$+!-\$%+'(.%;!!<%%'%.!3--\*.%%, '\$\$23@78%!!)#=!()!-.(\*8\$2.!=#.(#.\*!32!\$2-\$-\$-'36>%!7)2(\*\$?'(\$2%!=3\*\*32!(3'(#)\*%#\$+ @!37A2)=6.-18.2(% @!)\*)2)!8.2(\$2; !(

(

)\*+#%, "-+.%\*(

!

4)%( )2!5)66.1.!\$%!7)88\$((.-!)!.2%\*\$21!366!%7#)63\*69!32-!\*.%.3\*7#!+'?6\$73(\$2%!\$2:)6:\$21!B37'6(9@!%!(3BB!/\$276'-\$21!+)%)(-)7%0@!)!%('-.2(% @!\$276'-.!3++\*)+\$3(!3(\*\$?'(\$2!)B!3'(#)\*%#\$+\*.7)12\$( \$2!)B!(#)%!.\$2:)6:.-!\$2!(#.=)\*A;!!C\*)+.\*!3(\*\$?'(\$2)!32-!\*7)12\$( \$2)!3\*!.7\*\$(\$736!()!.2%\*\$21!(#3(!3'(#)\*%#\$+!7\*.-\$(!\$%!1\$:2!=#.2!32-!=#.\*!\$(!\$%!-'@!+\*.:2(\$21!3'(#)\*%#\$+!-\$%+'(.% @!)32-!+\*)8)(\$21!7)663?)\*3(\$2!38)21!\*%.3\*7#.\*%;!!(

!

D#2!-.( \*8\$2\$21!3'(#)\*%#\$+!3(\*\$?'(\$2@!\*%.3\*7#.\*%!%#)6-!B38\$6\$3\*\$E.!(#8%.6:.%!=\$#!(#.!+\*)B.%%\$)236!2)\*8%!32-!%(32-3\*-%)B!(#.\*\$!373-.8\$7!-\$%7\$+6\$2.!32-!3++69!(#8!3++\*)+\$3(.69;!F.%3\*7#.\*%!%#)6-!36%)!\*.1'63\*69!7)88'2\$73(!!(#)%!.!2)\*8%!32-!%(32-3\*-% @!3!8\$2\$8'8!=#.2!32!\$2-\$-\$-'36!G)\$2%!3!\*.%.3\*7#!+\*)G.7!(32-!(#.)382!322'36!?'3%% @!=\$#(!366!.8+6)9..% @!B37'6(9@!)%(3BB@!%('-.2(%!32-!)#.\*!\$2-\$-\$-'36%!\$2:)6:.-!\$2!(#.\*\$;!%!%.3\*7#

(

/"+0%#&0.\$(

!

H)\*!.37#!\$2-\$-\$-'36@!(#.!+\*\$:\$6.1.!B!3'(#)\*%#\$+!%#)6-!?!?!?3%.-!)2!3!%\$12\$B\$732(!7)2(\*\$?'(\$2!)!)(#.!7)27.+('36\$E3(\$2@!-.%\$12@!.!7'(\$2@!)!\$2(.+\*(3(\$2!)B!(#.!\*.%.3\*7#@!3%!=.66!3%!()!(#.!-)\*3B(\$21!)!%?'%!(32(\$2.69!\*.\$=\$21!)!\*.:%\$21!(#.!\*.%(\$76#!B\*

!

&'(#)\*%#\$+!+).(2(\$3669!7)2:.9%!1\*.3(!?.2.B\$(JQ!7#)\*% @!?'(!\$(!36%)!\$2:)6:.%!+.\*%)236!\*.%+2%\$?\$6\$(9!B)\*!(#.!\*.%.3\*7#!+'?6\$%#.-;!!<2!(#.!%7#)63\*69!3\*.23@!3'(#)\*%#\$+!36%)!B)\*8%!(#.!?B)\*!\*. =3\*-%!32-!73\*..\*!3-:327.8.2(!!<(!\$%!%.%2(\$36!(#3(!3!+.\*%)2>%!7)2%2(!?!)?(3\$2.-!?.B)\*!+637\$21!(#.\*\$!238.!2!3!96\$2. @!%\$27.!377)'2(3?\$6\$(9!32-!\*.%)2%\$?\$6\$(9!B)\*!(#.!7)2(.2(%!)B!3!

!"#\$%&'()\*+!(,!-/00!\*0!1'23!451,#\$15\*..6!(,!1%0)75#8!7.05(&%0(7,#!1,+!5\*\$7,#(&'(0\*#!07!\$57970\*(,0\*5(d6!(,!#.(,\*0;(,%&'(.10(7,2!<57.\*\*+(,:#!7;!0)!/10(7,1!"1.\*96!7;!=(,\*.#!7;!0)\*!>,(0\*+! =010\*#!7;!9\*5(.1!?'<'=@!-15.)!AB3!CDAE!AAF!AA@!CFFG#FID214)\*#!.5(0\*5(1!J\*5\*!1+1\$0\*+;!579!0)\*!K,0\*5,10(7,1!L799(00\*\*!;75!-+\*(.1!M7%5,1!N+(075#!?KL-MN@!;!519\*J75O!;75!&571+\*5!1\$\$(.1&'(06!1.57##!#.(,\*0;(,!(;\*+\*2  
" !L7,+%.0!7;!P\*\*15.)!(,!0)\*!K,0519%51!P\*\*15.)!<57:519!10!/KQ!/10(7,1!K,#0(0%0\*#!7;!Q\*1'0)!R;(.!\*!7;!0)!S(5\*.075

+?6\$%#.-!) \*A!\$%!\$8+6\$.-!=#.2!3'(#)\*%#\$+!7\*.-\$(!\$%!1\$:.2;!!"#.\*.B)\*.@\$B!329)2.!\$%!377)\*-.-!

/" +0%#&0.\$(:#,'# (

!

L.(.\*8\$23(\$2%)B!P6.3-!3'(#)\*Q!32-!B7(#)\*Q!-\$BB.\*!%\$12\$B\$732(69!-.+.2-\$21!)2!(#.!.373-.8\$7!  
-\$%7\$+6\$2.;!!5)2%.K'.2(69@!=#.2!83A\$21!P3'(#)\*%#\$+!)\*.\*Q!-.(.\*8\$23(\$2%)B!P6.3-!3'(#)\*Q!  
\*.B.\*!(!#.!+\*)B.%%\$)236!2)\*8%!32-!%(32-3\*-%!)B!(#. \$\*!373-.8\$23(\$2%)B!P6.3-!3'(#)\*Q!  
\*.K'\$\*.8.2(%!B\*)8!(#.!.%.3\*7#!G)\*236!\$2!=#\$7#!(#.9#!)+.!'?6\$%#!)\*!(#.!.%+)2%)\*!B!(#.!.%.3\*7#!  
\$2:)6:-;!!<2!(#.!.:2(!)B!3!%\$( '3(\$2!\$2!=#\$7#!3'(#)\*%#\$+!)\*.\*!7322)(!?.!-.(\*8\$2.-@!(#.!.7)  
3'(#)\*%!%#)'6-!7)2(37(!#.\$!\*%.+.7(\$.:B\*(8.2(!7#3\$\*)!\*!3%%)7\$3(!.%.3\*7#!-.32!B)\*!3%%\$%(327. ;!  
!

;%\* <" +0%#(=%\*+#. >"+%#&

!

<2-\$:-'36%#)%!.7)2(\*\$?'(\$2%!)!2)(!G'(%\$B9!3'(#)\*%#\$+!)2!(#.!.3B)\*.8.2(\$2.-!7\*\$(\*\$3  
7)'6-!%(\$6637A2)=6.-1.-!\$2-\$:-'3669!)!3%!3!1\*)+'!2-.\*!3!%\$216.!#3-\$21!/. ;!;!R56\$2\$736!  
<2:..%(\$13()\*%R!)!RC3\*(\$7\$+3(\$21!<2:..%(\$13()\*%R0@!32-!(#. \$\*!373-.8\$23(\$2%)B!P6.3-!3'(#)\*Q!  
R%.\*.-!3%!%7\$2(\$B\$7!3-.\$%)\*%@R!R7\*\$(\$73669!\*.:\$.=-(#!%('9!+\*)+)%36@R!R7)66.7(-!3(3@R  
R+\*):\$.-!32-!73\*.-!B)\*!%('9!+3(\$2(%@R!R+3\*(\$7\$+3(-!\$2!=\$(\$21!)\*!(.7#2\$736!.-\$(21!)B!(#.!  
832'%7\*\$+(R0;  
!

SI38+6.%!)B!37(\$:\$(\$.%!(#3(!36)2.!-!)2)(!K'36\$B9!3!7)2(\*\$?'()\*!B)\*!3'(#)\*%#\$+!\$276'-.@!?'(!3\*!.2)(!  
6\$8\$(-!)M!37K'\$%\$(\$2!)B!B'2-\$21T!1.2.\*36!%'+.\*:\$%\$2!)B!3!\*%.3\*7#!1\*)+'!)\*!1.2.\*36!  
3-8\$2\$%(\*3(\$.:!%++)\*(T!32-!=\$22%\$%(327.@!(.7#2\$736!.-\$(21@!6321'31!.-\$(21@!32-!  
+\*))B\*.3-\$21!  
!

? '9%725(%@(2\* /" +0%#

!

" #.!.7\$%\$)2!\* .8):.!.32!3'(#)\*! +\*\$)\*!(!)+?'6\$73(\$2K\*\$\*.%!73\*.B'6!7)2%\$-.\*3(\$2)32-!  
3-#.\*.27.!(!).(\$736!%(32-3\*-%(\$!%!\* .7)88.2- -(#!3(!7)B'(#)\*%!\*.:\$.=(#!.3'(#)\*%#\$+!7\*\$(\*\$3!  
%(3(-!\$2!(\$%\$!.\$2!)\*.\*!(!)7)2B\*\$8!.37#!\$2-\$:-'36!#3%@!)!#3%!)2)(@!%3(\$%B\$.-!37#!7\*\$(\*\$)2;!!<  
3!-.7\$%\$)2!\$%!83-!(!)\*.8):.!.32!3'(#)\*@!366!3'(#)\*%!%#)'6-!7)2%.2(!\$2!=\$(\$21!)(#!3(!\* .8):36@!  
\$276'-\$21!(#.!.176'-.-!3'(#)\* \$;!!U+)2!31\*..8.2(@!3'(#)\*%!%#)'6-!38.2-!(#.!.3'(#)\*!6\$%(!32-!  
7)2(\*\$?'()\*!-.(3\$6%!3%!2.-.!. ;!  
!

&29!-\$%+('.%!)!-\$%31\*..8.2(%!38)2!B7(#)\*%!\* .13\*-\$21!3'(#)\*%#\$+):36%#)'6-!?!  
3--.\*%.-!?'9!(#.!.%.+.7(\$.:!-.+3\*(8.2(!7#3\$\*)!\*!3%%)7\$3(!.%.3\*7#!-.32;!!<2!%'7#!32!B)2%(327.@!  
3'(#)\*%!%#)'6-!+63\$2#!.\*.3%)2!B)\*!\* .8):\$21!32!3'(#)\*!32-!+\*):\$-!3!-.(3\$6.-G%(\$B\$736)2  
(#3(!-.7\$%\$)2!36)21!=\$#!%++)\*(\$21!)-7'8.2(3(B)B!3++6\$73?6.;!!  
!

\_\_\_\_\_ "

\$!L)1,.\*#!(,11%0)75#)(\$T!P\*97W1!7;!11%0)75!\$%&'(.10(7,U!LR<N!  
)00\$#TVV\$%&'(.10(7,\*0)(. #275:V#(0\*#V+\*;1%0V;(' \*#V#0)76#1\$\*;\*75!\$%&'(.10(7)7\$\* H7J.)1502\$+!

\$"

"



## Addendum A: Authorship Agreement Flow Chart

Establish Authorship  
Agreement written by

# Addendum B: Authorship Dispute Resolution Flow Chart

**\*Notes**  
Research misconduct is defined as plagiarism, falsification, and or fabrication.



