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67883&!&+9!%/3+&;8!3+G*2G(' (+4!3+!4/(!=>6,!/7 ' &+!)3@/48!&A78(8!/&G(!A((+!(G39(+0(9!4/)*7@/!4/(3)!5&03234&43G(!&043*+8!23H(!0*+43+7&43*+!*5!4)&9(!B34/!:*)4/!,*)(&!3))(81(043G(!*5!3+4()+&43*+&2!8&+043*+8E!4/(!(+&A23+@!*5!/7 ' &+!4)&5530H3+@!*5!:*)4/!,*)(&+8!B/*!/&G(!52(9!4*!%/3+&E!&+9!4/(!3+G*27+4&)#!)(1&4)3&43*+!*5!)(57@((8!5)* ' !4/(!=>6,F5!!

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I 99343*+&22#E!1*230#! ' (&87)(8!4 / (! J FKF!8 / *729!4&H(!4*!57)4 / ()!348!3+4()G(+43*+!&+9! ' 343@&43*+!3+!4 / (!
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a *)(*G()E!" (3i3+@!&+9! a *80*B!&)(!0* ' 123034!3+!&+9!)(@72&)2#!0*+4)3A74(!4*!4/(!8347&43*+!*5!:*)4/! , *)(&;8!/7 ' &+!)3@/48!&A78(8F[29]!!=)3G(+!A#!4/(!7)@(!4*!)(' &3+!*+!@**9!4()' 8!B34/!4/(!=>6 , !&+9!A(+(534!(0*+* ' 30&22#E!67883&!&+9!%/3+&!&88384!3+!Z/7 ' &+!4)&5530H3+@!^*5!:*)4/! , *)(&+!0343D(+8_E!4)&+8+&43*+&2!)(1)(883*+E!&+9!5*)03A2(!)(1&4)3&43*+!*5!:*)4/! , *)(&+!)(57@((8!F!F!F!F\[30]!!6&4/()!4/&+!&0H+*B2(9@3+@!4/(!&A78(8!*5!/7 ' &+!)3@/48!*5!:*)4/! , *)(&+!0343D(+8!&+9!4/(!4)(&4 ' (+4!4/(#!&)(!3+/()(+42#!(+4342(9!4*E!67883&!&+9!%/3+&!938)(@&)9!+7 ' ()*78!4)(&438(8!&+9!)(@72&43*+8!B34/!4/(!&3 ' !4*! ' &H(!4/(3)!0*7+4)3(8! ' *)(!1)*81()*78!&+9!(55(043G(2#!4/)*B8!/7 ' &+!9(0(+0#!*74!4/(!B3+9*BF!" *4/!%/3+&! &+9! 67883&! 0*+43+7*782#! /39(!:*)4/! , *)(&+! 2&A*)()8[31]! &+9! G3*2&4(! JF:F! K(07)34#!%*7+032! 6(8*2743*+!< J :K%6?!OPcj!A#!/*843+@!:*)4/! , *)(&+!B*)H()8!3+!4/(3)!0*7+4)3(8!&+9!Z&)(!^!_! &043G(! 5&03234&4*)8! *5! 4/(!^, 3 ' _!)(@3 ' (;8! 4)&+8+&43*+&2!)(1)(883*+! k! 3F(FE! B/(+! &74/*)34&)3&+!@*G()+ ' (+48! 4&H(! &043*+8! *74839(! 4/(3)! A*)9()8! 4*!)(1)(883*+! 4/(3)! 0343D(+8^E_\[32]! &8! *11*8(9! 4*!&A393+@! A#!4/(!)(8*2743*+!&+9!Z)(1&4)3&4^3+@_!4*!4/(!=>6 , !&22!=>6 , !+&43*+&28!(&)+3+@!3+0* ' (!3+!4/&4! a (' A()!K4&4(;8!i7)3893043*+!F!F!F!F\[33]!!67883&!&+9!%/3+&!&28*!0*+4)3A74(!4*!4/(!=>6 , ;8!/7 ' &+!)3@/48!3887(8!A#!)(83843+@! JF:F!8&+043*+8!&+9!0/**83+@!4*!ZA7#!^!_!4/3+@8!23H(!0*&2!&+9!0*11()!^5)* ' !:*)4/! , *)(&_E!B/30/!&)(!(X0&G&4(9!4/)*7@/!2*48!*5!/7 ' &+!)3@/48!&A78(8F\[34]!!

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TG(+!4/*7@/!34!38!&!1&)4#!4*!4/(!(!6(57@((!%*+G(+43*+!&+9!4/(!%*+G(+43*+!I @&3+84! . *)47)(35E!&8!B(22!&8!&!1()' &+(+4! JF:F!K(07)34#!%*7+032! ' (' A()E!%/3+&;8!0* ' 123034#!3+!:*)4/! , *)(&;8!G3*2&43*+8!*5!/7 ' &+!)3@/48!38!(G39(+0(9! A#!348!9*9@3+@!*5!&00*7+4&A3234#!5*)!&+#!*5!4/(!=>6 , ;8!&A78(8!ZA#!

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I 99343*+&22#E! 1*4(+43&2! *11*)47+343(8! 5*)! 4 / (! J FKF! 4*! 1&)4&H(! 3+! +(@*43&43*+8! B34 / ! 4 / (! =>6 , !&)(! 0* ' ' *+2#!8[7&+9()(9!&+9!7+1)*97043G(!97(!4*!4 / (!&+4&@*+38430!)(2&43*+8 / 31!4 / (!4B*!0*7+4)3(8 N 41 ! 4 / (#! / &G(! / &9! +*! 0* ' ' 7+30&43*+! 5*)! ' *)(! 4 / &+! 5*7)! #(&)8! &+9! Z / &G(! *+2#! (+@&@(9! 3+! *55303&2! 8(07)34#! 93807883*+8! 3+! *+(! *74! *5! 4 / (! 2&84! ^(2(G(+_! #(&)8^E_! &+9!9*! +*4! &11(&)!4*! A(! 1)3*)343D3+@!

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./(!4*4&234&)3&+!=>6,!)(@3 ' (E!&8!4/(!1()1(4)&4*)!*5!/7 ' &+!)3@/48!G3*2&43*+8E!38! ' &3+2#!)(81*+83A2(!5*)!4/(!&A78(8!0* ' ' 344(9!&@&3+84!348!0343D(+8E!#(4!%/3+&!&+9!67883&! ' 784!&28*!A(!/(29!23&A2(!&8!&39()8!&+9!&A(44*)8F46!!fG()!4/(!#(&)8E!(55*)48!870/!&8!0(+4()3+@!JFKF!5*)(3@+!1*230#!*+!/7 ' &+!)3@/48!3887(8!4/)*7@/!4/(!78(!*5!4)32&4()&2!87 ' ' 348E47!&11*3+43+@!&!K1(03&2!T+G*#!5*)!Y7 ' &+!63@/48!3+!:*)4/!,*)(&E48!&+9!)((+4()3+@!*+4*!4/(!JF:F!Y7 ' &+!63@/48!%*7+03249!/&G(!A((+! ' &9(!4*! ' 343@&4(!&+9!)(84)304!4/(!/7 ' &+!)3@/48!G3*2&43*+8!B34/3+!4/(!=>6,!3+!*)9()!4*!1)*4(04!4/(!B(25&)(!*5!:*)4/!,*)(&+!0343D(+8E!A74!9*3+@!8*!38!+*!(&8#!5(&4F50!I24/*7@/!4/(!1)(G3*782#! ' (+43*+(9! ' (&87)(8!/&G(!&39(9!3+!4/(! ' 343@&43*+!*5!4/(!=>6,!/7 ' &+!)3@/48!3887(8E!57)4/()!&043*+!38!84322!3 ' 1()&43G(!&+9! ' 784!A(!&!4*1!1)3*)34#!*5!0*+839()&43*+!A#!4/(!JFKF!3+!*)9()!4*!1)*4(04!:*)4/!,*)(&+!0343D(+8!&+9! ' &H(!1)*@)(88!4*B&)9!B*)29CB39(!8(07)34#F!

0*+8724&43*+8! A(4B((+! ^4/(_! 0*7+4)3(8F\[53]! ! I 4! 4/(! 87 ' ' 34E! %*2F! =&G39! a &XB(22! 81*H(! *5! 4/(! 87 ' ' 34;8!3 ' 1*)4&+0(!&+9!348!1*4(+43&2!4*! ' &H(! ' 70/!+((9(9!1)*@)(88!3+!)(@&)9!4*!4/(!=>6 , ! , 3 ' !)(@3 ' (E!8&#3+@!4/&4E!Z1^4_/38!38!4/(!43 ' (!4*!3+343&4(!&!+(B!84)&4(@#F!!L4!8/*729!A(!A&8(9!*+!4/)((!23+(8!*5!(55*)4$!&!/7 ' &+!)3@/48!715)*+4!&11)*&0/E!&!0* ' 1)(/(+83G(!3+5*) ' &43*+!&+9!3+527(+0(!0& ' 1&3@+E!&+9!4/(!17)8734!*5!&!5)((!&+9!7+353(9! , *)(&F\[54]!!Q)* ' !4/(!87 ' ' 34!0& ' (!8* ' (4/3+@!0* ' 12(4(2#!+(B!&+9!+(G()!9*+(!A(5*)( ] &+!&++*7+0(' (+4!*5!Zi*3+4!/7 ' &+!)3@/48!9(' &+98\!*+!4/(!=>6 , F[55]!!L+!&9934 3*+! 4*! 4/(! 3+8384(+0(! 4/&4! 4/(! =>6 , ! 1)*G39(! 3+/()(+4! /7 ' &+!)3@/48! 4*! 4/(3)! 0343D(+8E! 4/(!9(' &+98! &28*! 3+0279(9! 4/&4! &A9704(9! e&1&+(8(! 0343D(+8! &+9! K*74/! , *)(&+! 1)38*+()8! *5! B&)! A(!)(1&4)3&4(9!4*!4/(3)!)(81(043G(!/* ' (!0*7+4)3(8F[56]!!!
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" 74E!34!/&8!A((+!1*3+4(9!*74!A#!4/(!93)(04*)!*5!4/(!1)*@)& ' !*+! J FKFC , *)(&!1*230#!&4!4/(!%*7+032!*+!Q*)(3@+! 6(2&43*+8!<%Q6?!4/&4!4/(!4)32&4()&2!)(2&43*+8/31!A(4B((+!4/(! J FKFE!K*74/! , *)(&E!&+9!e&1&+!38!1)*@)(883+@!83 ' 724&+(*782#!B34/!4/(!)(2&43*+8/31!A(4B((+!: *)4/! , *)(&E!6 7883&E!&+9!%/3+&E!&+9!4/&4!4/38! ' &#!Z9((1(+!0* ' 1(4343*+!&+9!3 ' 1(9(!1)*81(048!5*)!0**1()&43*+!A(4B((+!4/(!4B*!0*&2343*+8F\[57]! I 8!4/(!)(2&43*+8/31!84)(+@4/(+8!A(4B((+!4/(! J FKFE!e&1&+E!&+9!K*74/! , *)(&E!34!38!3 ' 1()&43G(!4*! H((1!3+! ' 3+9!4/&4!4/(! Z1*230#!0**)93+&43*+\! A(4B((+!4/(!=>6 , E!%/3+&E!&+9!6 7883&!38!)(3+5*)0(9!&8!B(22F[58]!!Q7)4/()E!&54()!)(' &3+3+@!7+*00713(9!5*)! ' *)(!4/&+!4B*!1)(839(+43&2!&9 ' 3+384)&43*+8E! >)(839(+4! " 39(+! 53+&22#! 5322(9! 4/(! 1*8343*+! *5! J FKF! K1(03&2! T+G*#! 5*)! Y7 ' &+!63@/48! 3+! : *)4/! , *)(&! A#! &11*3+43+@! K4&4(! =(1&)4 ' (+4! *55303&2! e723(! . 7)+()F[59]! ! . 7)+();8!&11*3+4 ' (+4!38!4/*7@/4!4*!A)3+@! ' 70/C

I 11*3+43+@!e723(!.7)+()!&8!4/(!JFKF!K1(03&2!T+G*#!5*)!Y7 ' &+!63@/48!3+!:*)4/!,*)(&!B&8!&!2*+@!*G()97(!84(1!3+!4/(!)3@/4!93)(043*+!5*)!4/(!JFKF!&+9!8((' 8!4*!A(![734(!1)* ' 383+@!5*)!4/(! ' 343@&43*+!*5!/7 ' &+!)3@/48!&A78(8!3+!4/(!=>6,F!!I 99343*+&22#E!K4&4(!=(1&)4 ' (+4!*55303&28!/&G(!)(C84)&4(@3D(9!&+9!8(4!4/(3)!83@/48!*+!A)3+@3+@!&B&)(+(88!4*!4/(!93)(!/7 ' &+!)3@/48!8347&43*+!3+!4/(!=>6,!A#!9(G(2*13+@!&!A(44()!84)(& ' !*5!3+5*) ' &43*+!3+4*!&+9!*74!*5!4/(!=>6,!&+9!/&G(!&28*!12&0(9!(' 1/&838!*+!Z&00*7+4&A3234#!5*)!:*)4/!,*)(&;8!/7 ' &+!)3@/48!&A78(8!&+9!G3*2&43*+8E!&+9!0*7+4()3+@!:*)4/!,*)(&+!4)&+8+&43*+&2!)(1)(883*+F\62!!

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I 28*E!&8!&!)(8724!*5!4/(!)((+4)#!*5!4/(!JFKF!*+4*!4/(!JF:F!Y7 ' &+!63@/48!%*7+032!&54()!B34/9)&B3+@!7+9()!4/(!.)7 ' 1!&9 ' 3+384)&43*+!3+!OUMdE63!4/(!JFKF!0&+!+*B!A(! ' *)(!3+G*2G(9!3+!)(4&23&43+@!&@&3+84!67883&!&+9!%/3+&!B34/3+!4/(!JF:FF64!!I!)(G3G&2!*5!K(07)34#!%*7+032!8(883*+8!4*!9380788!/7 ' &+!)3@/48!3+!4/(!=>6,!/&8!&28*!A((+!3+843@&4(9!A#!*55303&28!*5!4/(!"39(+!&9 ' 3+384)&43*+F65!!h)(&4!1)*@)(88!B&8!23H(2#!4*!A(! ' &9(!B/(+!&+!I))3&C5*) ' 72&! ' ((43+@!<&+!3+5*) ' &2! ' ((43+@!*5!4/(!K(07)34#!%*7+032?66!

, *)(&! 38! 1&)& ' *7+4! 3+! *)9()! 5*)! 348! ' (88&@(! 4*! A(! 02(&)2#! 0*+G(#(9! 4*! /7 ' &+!)3@/48! G3*2&4*)8F!!
.)(&43+@! /7 ' &+!)3@/48! 3887(8! Z&8! &+! *+C*55! 8B340/E\! 23H(! 4/(#! B()(! 4/)*7@/*74! 4/(! .)7 ' 1!

8&+043*+8! B34/!)(81(04! 4*! :*)4/! ,*)(&E! &'(+9(9! 4/(! :*)4/! ,*)(&! K&+043*+8! &+9! >*230#! T+/&+0('(+4! I 04! *5! OUMV! &+9! Z0)(&4(9! &!)(A744&A2(!1)(87'143*+\92! 93!)(@&)93+@! @**98!'&9(! 4/)*7@/!4/(!78(!*5!:*)4/!,*)(&+!2&A*)F!!./(!%II.KI!5*)'&22#!84&4(8!4/&4!

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&+#! 83@+3530&+4! @**98E! B&)(8E! &)4302(8E! &+9!'()0/&+938(!'3+(9E! 1)*970(9E! *)! '&+75&047)(9!B/*22#!*)!3+!1&)4!A#!4/(!2&A*)!*5!:*)4/!,*)(&+!+&43*+&28!*)!0343D(+8! 8/&22!A(!9((' (9!4*!A(!1)*/3A34(9!7+9()!8(043*+!PUj!*5!4/(!.&)355!I 04!*5!McPU!<Mc! JFKF%F!MPUj?!&+9!8/&22!+*4!A(!(+4342(9!4*!(+4)#!&4!&+#!*5!4/(!1*)48!*5!4/(!J+34(9! K4&4(8F94!!

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I 24/*7@/!4/(!%II.KI!(55(043G(2#!174!3+4*!B*)98!4/(!1)(87'143*+!4/&4!&+#!&+9!&22!5*)'8!*5!=>6,! 2&A*)![7&2353(8!&8!5*)0(9!2&A*)E!4/(!%II.KI!/&8!*+2#!1)(G(+4(9!&!8'&22!+7'A()!*5!8/31'(+48! B/*22#!*)!1&)42#!0*'1)38(9!*5!5*)0(9!:*)4/!,*)(&+!2&A*)!5)*'!(+4()3+@!4/(!JFKF95!!I 043*+8!A#!4/(!

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4/&4! '&+#!*5!4/(!1&84!&9 '3+384)&43*+8!/&G(!Z5&32(9!4*!(+5*)0(! JFKF!2&B8!&+9! J :!8&+043*+8^E_\!

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8(07)34#F\137!!L+!9*3+@!8*E!4/(!JFKFE!&8!B(22!&8!4/(!3+4()+&43*+&2!0*''7+34#!&8!&!B/*2(E!'&#!A(!'*)(!'*43G&4(9!A#!4/(!1)*81(04!*5!A(44()3+@!4/(3)!)(2&43*+8!B34/!:*)4/!,*)(&!4/()(A#!+79@3+@!4/('!4*B&)9!(X/&7843+@!&22!1*883A2(!'(&87)(8!4/&4!0*729!174!&+!(+9!4*!4/(!3+/()(+4!/7'&+!)3@/48!G3*2&43*+8!*5!4/(!=>6,F!!"74!&8!38!'(+43*+(9!A#!/7'&+!)3@/48!81(03&2384!6*A()4&!%*/(+E!4/(!JFKF!

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Q3+&22#E! &24/*7@/! 4/(! =>6,! 38! H+*B+! 4*! A(! (X4)(' (2#!)(1)(883G(! 3+! 348! 0(+8*)8/31! *5!0* ' ' 7+30&43*+!*5!3+5*) ' &43*+!3+4*!&+9!*74!*5!4/(!0*7+4)#E!4/()(!/&8!)(0(+42#!A((+!Z0*+43+7(9!@)*B4/! 3+! 4/(! +7 ' A()! *5!:*)4/! ,*)(&+! 0(221/*+(! 87A80)3143*+8!9(8134(! 4/(!)(@3 ' (;8!87)G(322&+0(F\145!! ` 34/!4/38!3+! ' 3+9E!4/(!J FKF!8/*729!&04!*+!4/38!*11*)47+34#!*5!:*)4/!,*)(&+!0343D(+8!A)(&H3+@!5)((!5)* ' !4/(!=>6,!0*+4)*2!*G()!(X4()+&2!3+5*) ' &43*+b ' (93&!&+9!53+9!+(B!B&#8! 4*! Z74323D(! 4/38! @)*B3+@! 8*7)0(! *5! 3+5*) ' &43*+! 52*B! 3+4*! 4/(! 0*7+4)#E! 1*4(+43&22#!3+0)(&83+@!&B&)(+(88!*5!3+5*) ' &43*+!0*+87 ' 143*+!& ' *+@!4/(!:*)4/!,*)(&+!1*172&43*+F\146!!L+!4&H3+@!870/!3+343&43G(E!4/(!J FKF!B*729!A(!&A2(!4*! ' &H(!@)(&4!@&3+8!3+!348!(55*)48!4*!&22(G3&4(!4/(!8755()3+@!*5!:*)4/!,*)(&+8!A#! ' &H3+@!0343D(+8!*5!4/(!=>6,!&B&)(!*5!4/(!G3*2&43*+!A#!4/(!,3 ' !)(@3 ' (!*5!4/(3)!3+/()(+4!/7 ' &+!)3@/48!&+9!B*729!(+&A2(!4/(!J FKF!4*!Z9(G(2*1!&! ' *)(!0* ' 1)(/(+83G(!&+9!(55(043G(!84)&4(@#!4*!1)* ' *4(!/7 ' &+!)3@/48!3+!:*)4/!,*)(&E!A)39@3+@!4/(!@&1!A(4B((+!3+4()+&2!&+9!(X4()+&2!(55*)48F\147!./()(5*)(E!34!38!3 ' 1()&43G(!5*)!4/(!J FKF!4*! ' &H(!1)*@)(88!3+!3+5324)&43+@!4/(!=>6,!B34/!3+5*) ' &43*+!4/&4! ' &#!A(!/(21572!&+9!A(+(5303&2!4*!:*)4/!,*)(&+8!B/32(!4/(!0*7+4)#;8!787&22#!84)*+@!0(+8*)8/31!38!B(&H(+(9!8*!&8!4*!&2()4!4/(/7 ' &+!)3@/48!&A78(8!4/(#!&)(!(+97)3+@!&+9!81)(&93+@!4/(!B*)9!4/&4!4/(!J FKF!0&+!&+9!B322!&88384!3+!!&887&@3+@!4/(8(!3887(8F!
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