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1 8 = <

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\$?!@ ABCD %D!2!BC B

!@ E> F!@@!BC D D!AG2 D 2B

"!@ %&)- (\* )%&0 /H

. 6 H 6 4 H , H , % H 6 5 (

5!A B> GCD HB CB H C GI B CD!

E> ?!@ GDF! GCD ?JFEI @ GC2

\$? &J2?B

& & @ 3 5  
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\$" % (- 0 % \$ , & . ; / ( : / ( \* , - & 1 K =  
HB F2 2 H C GI -B D :!!!GF 4 C2!CAS ) @!D CA T 4 C2!CAS 6G@2I U 3CBV H GCD "B2 I7  
6BFFGCD IC 6?! H C GI ! %DVG D 4G C @ ) @!D CA 4G C @ 6BJ 2 7!C @?(@ EBJCDG > B !

. "% \*! @2 %D!2!BC B T !FIG .G@2  
V?!A? V B2 J@2 2V CI> BC > G  
@ F C ?G E C B D J A D ?GD !  
1 -B D 6J WBC 2? 5!A B> 2B V  
D D!AG2 D 2 ?G C D 2?J@ ,> B  
IG2 ! & 2?J ; B FGC> > G @ ,G  
IBJ !@S& &!!!GCA 4GCS B !FIG GC  
2 I ?BC BC DG> GCD 2BID F 2?G2 ? ?GD  
!C2 @2!C FG22 GEBJ2 2? &JASIGCD "BJ@  
SCBVC !I@U@A?BBI7 !C V?!A? -B D &JASIGC  
GCD GI@B GEBJ2 2? GD B!C!C ?BJ@ +  
G@ G @!D CA B -B D &JASIGCDU@ @2G  
E ABF ! & 2?J ; U@ BVC @!D CA ? VG@  
2? @ D 2G!I@ IGA D BC G FGC C2 AB D  
?GD ABII A2 D V ABC2G!C D !C 2? D!G > E  
%D C -B D &JASIGCDU@ @!@2 GCD @J C  
FEBD> 2? F !C GC G 2!AI GCD 2 2? F JE  
\$?!@ GAAB D!C I> D!D GCD FB@2 B I !C !  
2? + 6! !!GCD ,!!!2G > HGW 22 Z  
&EBJ2 G V S G 2 2? @ I 22 @ ?GD G G  
BF 2? %D!2B B 2? + 6! !!GCD ,!!!2G > HG  
VBJID F!CD ?!@ !C B F!C -B D 6J WBC 2?G2  
AI @ C2!2I D + BF (ID !FIG "BJ@ @ Z G2  
GCD G V DG>@ IG2 VG@ !C !2 D V!2? F> V  
E >BCD ,G@?BE G V? 2? 5!A B> GCD -GD>  
AGF !C BJ2 2 VG@ G IB !BJ@ DG> !C JC V  
F!! @ 2B 2? !A2J @\J V II SCBVC @ J V?  
!2A? AGF @ GCD GA? V S CD !CDJI !C  
V?!A? 2? @2GS @ G2 2!F @ ABF !@ V?G2 FG  
BJ2 !2@ B 2? @JFF ABII A2 2? BAA  
E AGJ@ F> V! BC 22!C B ? ?B @ !C 2?  
@> 2B -B D GCD -GD> 6J WBC GCD FJA? 2B ?  
F!CD D B 2?!@ GA2 E> G > A II C2 &!D  
BCI> BC B2? J @2 G ,G B V?B@ CGF B  
G 2 IJCA? -B D 6J WBC 2BBS F B G !!2  
!D GCD G 2 G V F!CJ2 @ @G!D + , 4J  
? 2B 2 II >BJ 2?G2 >BJ G 2B V !2 G EBBS I  
!@ D GCD E V!ID D 2?G2 ABJID BCI> GA  
+9BJ ABJIDCU2 V?> CB2 #:Z>VG@Z2? @2GFF I  
+ U C D GF2 B @JA? G 2?!C ?G CU2  
GCD 2? C G ?G > 2E J ?2 @2 JAS F R ?G  
+ "BV DG >BJ @G> >BJU CB2 B2 2? 2!F Z  
+ -BBS V?G2 !CD 2!F B GCD V?G2 DB Z  
C D VG@ !FF D!G2 I> 2BID 2?G2 ABJID  
?GD I C2> B @ G 2!F 2?G2 ? VBJID 2GS  
?GD B2 2B DB !2  
-B D 6J WBC GI@B 2BID F ? BJID B D 2  
CD!G D G 2F C2@ 2B ? I F] !C > D! A2

G 2 VG D@ BC BE2G!C!C F> BF!@ 2B 2 > GC  
!FIG G F F!@@!BC 2B D D!AG2 2? EBBS  
WBC VG@ G@ BBD G@ ?!@ VB D !C ?!@ BF!  
F 2B @ GI EBBS@ V?!A? ? 2?BJ ?2 ABJID J  
?G 2B DG> !C F> B@@ @!BC 2? BB A?G 2  
2? HB CB H C GI GCD 5!A B>@ Z V?!A? E>  
@ C2 ?!F 2B @ E B !2 VG@ @ 2 J !C 2>  
FG SGEI FGCC GCD GA2JGII> BJCD 2!F  
G @ B 2? A?G 2 &!! AB A2!BC@ ? AG !  
D B EIJ CA!! 2 VG@ G FG SGEI I @@@BC  
B 2? FGCC !C V?!A? -B D 6J WBC BJCD 2!F  
S!CD B @JE A2 G@ V II G@ B ?!@ VBCD JI F  
2 CBV ! @ F 2? G2 @2 I G@J 2V C2> E  
D D!AG2 E> F!@@!BC 2?!@ @ ABCD BIJF 2  
%G I B ) GD!C V?B ?G@ DBC F 2? ?BCBJ  
GAABF GC> ?!F BCFB 2?GC BC @?BB2!C D  
!FIG ?!!I@ ?G DBC F> E @2 2B AB A2 E  
AB D FB J 2BDG2 E> !CAIJD!C @ GI C  
?G @2JD!BJ@I> G22 F 2 D 2B G B!D BI!2AGI \\  
F>@ I 2B G ?!@2B > B !FIG V?!A? FG> E B !C  
@!D ? B V?B FG> !@!2 2? @2G2!BC !C 2?  
G G!C \JB2 D I> BF !BJ@ V !2 @ GCD  
! G V @2B ! @ B 2? G@2 2 J@2 2?G2 C  
DBVC V!!! J 2 GC>BC U@ !!C @  
GF D I> !CD E2 D 2B FGC> BID ! CD@ B G  
!C 2?!@ BIJF  
D @! 2B AB D V!2? G2!2JD ? I CD D  
, / - /BIDG 3 J !C2 CD C2 B "!!! 2G2 @ (  
-!2@2 A 2G > !FIG ,JC!A! GI!2> , : % 4J  
GI %C !C , : 6B22BC 3, @@@ 4 FC -  
2GS C FGC> B 2? ?B2B G ?@ !C 2?!@ EBBS  
: 6 GCD @ GCD , 0 0 , ?2G B 2? \$?BFG@B  
B BDJA!C !A2J @ , \* "G !C 2BC 6J  
5!A2B !G , FB !GI "GII 6GIAJ22G B B !D!C ?  
AB22U@ !A2J @ 2B , @@@ \$?GAS !CS -  
2B BDJA 2? ! FG GCD 2B 2? + \$!F @ B  
B !D!C G CJFE B 2? !I!J@2 G2!BC@ GCD  
BIJF 1 GF GI@B FJA? !CD E2 D 2B ! 0 C>@  
)J@?E BBS :!!!GF@ , GCD , @ & \* J@@BC  
, 4 4 GC . 2FGC GCD , ) :G2@BC B GIJGEI  
GD !A &EB GII G 2!AJIG I> D @! 2B @  
2B " !@ % A II CA> 2? %G I B ->22BC V?B ?G  
@J !! D F BF G D!G > S 2 E> ?!@ FB2?  
1K`X 1KKL V!2? !C2 @2!C D 2G!!@ B ?!@ G  
\$?!@ !@ 2? ! @ 2 2!F 2?G2 GC> 2 GA2@ B  
FGD JE!A

% 4

6"&.\$%) R ! FIG 2 @ ( ! ! C % G I > " ! @ 2 B > G C

H BIB ! AGI B FGUBS?G JI G ! D 4 ! 2 ! @ ? ABC \ J @ 2 \* ! @ 2  
E B 2 ? @ H G D ! . J I ! ! G F - I B > D 6 G 2 - J G D @ U 5 ! V  
B 2 , 5 ! A 2 B G A \ J F B C 2 6 G 2 G ! C , J C D > U @ B J C G I  
D ) ? . ? ! ! ! ! J 2 C G C 2 " % \* G C , 6 \* C A ? U @ B J  
F G @ 5 ! V @ B ! F I G , \* : > F G C , & C D V : ! ! @ B C  
B A D I G E B J @ > @ 2 F \$ ? 2 B C G \$ ? G ! ! V G > ! F I G G  
I B ! A G I @ 2 G 2 ! @ 2 ! A @ 10e=

6"&.\$%) R ) @ ! D C A @ B 2 ? H B C B @ H C G I

- B D & F ? @ 2 - B D : ! ! ! ! G F 4 C 2 ! C A S G C D T 4 C 2 ! C A S 6 G @  
& J A S I G C D - B D % ! ! C E B B J ? & J A S I G C D " B J @ U , ! @ @ %  
A 2 G > @ - B D 3 6 ? G @ I 7 - B D " G D ! C - B D 0 G I ? B  
B G D - G D > 6 G C C ! C @ I 2 2 @ - B D % ! ! C T . 2 ? B U  
! F I G B D J @ - B D , G > B - B D / B 2 ? E B B S - B D - > 2 2 B C  
- G D > 4 2 2 > 4 G I B J @ E B B S - B D ) ! B C \* G 2 ? " ; -  
G C D - G D > 0 J ! C @ D ! G > " ! @ 2 B > B 5 ! A G I - B D G C  
E > - B D 6 J W B C - B D 6 J W B C U @ @ ! C G 2 ! B C - G D > 6 J  
! C 2 B C " D ! C - B D " G D ! C - B D 6 ? I F @ B D T ( J  
- G D > ) G D ! C U @ : B S - B D - > 2 2 B C

6"&.\$%) R 5 ! A G I " B @ ! 2 G I ! 2 > G C D 2 ? & ! D

5 ! A B > @ G C D 2 ? ! J @ 2 @ C A ! D C 2 @ G 2 5 ! A G I - B D 6  
D 6 G F - B D : ! ! ! ! G F 4 @ B D 2 B ! @ B 2 ? & 0 6

6"&.\$%) 5 R ) @ ! D C A @ B 2 ? 6 B F F G C D @ ! C A 6

- B D 6 B F E F T ; C C D > " B J @ U - B D 0 G I ? B J @ ! ! %  
6 B J 2 U - B D : ! ! ! ! G F 4 C 2 ! C A S T 4 C 2 ! C A S 6 G @ 2 I U ! 6  
& C @ B C ! F I G ! C 2 ? , J 2 ! C > \$ B V I I U @ ? G C D E B B S , H  
I A 2 ! B C @ & A A B J C 2 B H J S ? G B J 2 E G S E > 2 ? , G \ J ! @ B  
! I D T : B B D ! I I U ! 0 B C G I D 2 V G 2 T C B V D B C U - B D  
C B V D B C U D @ A ! E D ! ( U , B E 6 G ? ! 4 G J A ? G F  
- B D ) G V ! ! C @ B C , ! ! ! 2 G > A A > G E B I ! @ ? D ! 6 I G J D  
: ! ! ! ! G F 4 ! D V B B D ` 1 R K K

6"&.\$%) 5 R H B C B @ B 2 ? . J C G E G C D 2 ? ! )

. J C G E H B C F C 2 F B @ 2 B ! F I G ! C 1 K ` 1 4 G C @ 6 B J 2 B  
? B J @ ! - B J ! @ 0 G C U @ ! F B F C 2 @ " ! @ 2 B > B T % ! ! @

6"&.\$%) 5 R\$? HB CF C2 B CD!G

\$? G2 T G SG U H B &E !? ,GASG>U@ T \$V C2> BC  
.B!|2> U H BV2? GCD D @A !2!BC B 2? HB CF C2 \$?  
DG>@ B B !A!GI@ , &CD V :!|@BCU@ B !C!BC !C T &EBD  
VB S !C CD!G E> -B D@ 0J !C %!|C 6J WBC ,!C2B "G  
-B D 6J WBCU@ T 4 !2!@? HB CF C2 !C CD!G 8YR 1L1

6"&.\$%) 5 R\$? - !@IG2J ^

\$? &@@ FEI> !C 18L< 2@ BV2? ,BC2G J 6? IF@ B D B  
E 0 I?! !FIG D EG2 BC % BDJ@ ,G A? 18=1

6"&.\$%) 5 R F !GI . B 2! @

GI B HB CF C2 B 2!@ \$? A 2G !G2@ GCD & F> " GD  
.JE!|A :B S@ ( !A \$? \*B !C B !A T C G F U T \$? ,  
T HB 2BC 6G@2! U GCD 2? C V 6!|! A 2G !G2 .J A?G@  
B \JG 2 @ &A\J!|@2!BC B B 2!@ 5GIJ B HB CF

6"&.\$%) P R BF !FIG C@2!2J2!BC@

\$? :G2 @J I> %|A2 !A -! ?2 @>@2 F \$? )!D \$  
,JC!A! G!|2> \$? 6?J A? @ 6? !@2 6?J A? &|! G!C2@ 6?  
\$?BFG@U 3/G2! 7 6?J A? \$? )BFGC 6G2?B!|A 6G2? D GI  
GCD 6?GI 2 . @!D C2@ GCD A 2G !@ \$? 'C!2 D !A  
) J@@ PPP 4!|?B 6B22BC A?BBI ,G@BC!A -BD @ T  
!FIG \*!C & 2@ BA! 2> )! BC "B@ !2GI :GIS "B@ !2GI  
G2 4G! D !|! \$? \$ I G ? ( !A &CCJGI )G!|VG> 6BC C  
\$BJ CGF C2

6"&.\$%) P R &CCGCDGI

%G I> ?!|2B > , C2!BC !C 1K Y \* 2 !C 1K K 2@ CBF CA  
BJ CGI ,!@@ %D CU@ D!G > 6G 2G!C H . \$?BFG@U T 5!  
HG D C@ \$? \*|BV \* 2 !C 1K<1 & A? > 6 B\J 2 -GD  
H>FS?GCG@ GCD )GA @ -B D :!|!GF 4 @ B D F B F C2  
6IJE 6BIBC I 2? "BCUEI % 4G !C U@ VB S -B D ,!C2BU@  
-B D )GVI|C@BCU@ G@|@!2GCA A!GI H>FS?GCG@ 6BI

6"&.\$%) P R BF (ID "BJ@ @ GCD 2? ! (VC @

\$? %|! @! %@2G2 2 GVE > "|| 4 CFB \$B C2!JF  
.G2!GIG ?BJ@ @ ; !|C H B "!@2B > B &|!GCA 4GCS B  
?BJ@ 4 !D 5! V \$? 6 G @ )B2?C > 6G@2! GCD !2@ 2  
GCD ,GDGF 4IG G2@S> \$? .!B > ;|@2BC . 2 @ !ID 2!  
/B 2?EGCS 4GC2BC> ;CBASD !C \$? \$ CD !|@ GCD 6 A!  
&@@BA!G2 D "B2 I@ B CD!G ,G B 4 HBGD 6BIBC I \$  
\$? ,G>B A?BBI , & , G A B E

6"&.\$%) P R\$? &FG2 J 0 GFG2!A 6IJE

,!@@ %D CU@ D!G > % !IB J !C 1K K &EE !!! %G I> 2?  
0G !@ BC T &FG2 J @ !C B !C G 2@ U -B D ->22BCU@ T :C  
\*B FG2!BC B 2? & 0 6 6IJE . BIB J GCD % !IB J !C 1K  
GC GA2B 6BIBC I GCD , @ T B > U 0 GC H C GI H D  
JAA @@ J!N7IG>@ GCD IG> @ 800

6"&.\$%) P R\$? # 4GWGG )BGD@ GCD )!D

N  
4GCS EJ!ID!C @ \*! F@ B 1K`L , @ @ @ 4G 22 \_ 6B \$?  
, -BV ! \$? ,GII GCD EGWGG \$? )!D \$? \$BVC?GI  
DGCD> GF GC GCD !AS@?GV !FIG \*! @ 180QL

6"&.\$%) P 5R !FIG BA! 2>

, \* CA? @ BJ CGI 1K K 6BIBC I 0 V :?!2 U@ U\$ G I@  
H GC2 1KYX \$? T 0 I?! S 2A? EBBS U 1K<1 T :?> 2? > GI  
BC BA! 2> , B?C -GC U@ T :GCD !C @ !C CD!G U 1K<  
!FIG 1KX= H C GI \* ) 6? @C > @ & \$ J ) B F U , \$  
, 5GI . !C@ U@ A !2!A!@F@ )JD>G D ;! !C U@ T .IG! C &  
B !FIG BA! 2> \$? E @ GCD EJ22 !! @ \$? T 6GII!C U  
BA!GI I 22 @ :! @ B 2? A C 2 5!A B > @ O=1

6"&.\$%) P 5 R,G@?BE G GCD ,G?G@J

JEJ EGC !FIG "BJ@ @ BC 2? ,G@?BE G BGD \*G! IGVI  
HGEI @ ,G@?BE G "BJ@ ? VBBD GCD 6B@> /BBS ; C!IV  
HBI -!CS@ "!!IBAS " GD \$? ) 2 G2 ,G@?BE GR 2 @ ?!@  
-B D )BE 2@U 2 CGCA> \$? T .!ASI @ 6BJ 2 ,G 2!GIU ) 2 C  
IBV "GII \$? GC BJI! 2JCC I GCD -B D ;!2A? C @ GAA!  
EBBS \$? 4BV O@<==

6"&.\$%) P5 R\$? "!!! . B I @BF 6J@2BF@ GCD S

\$? EGWGG !C 1K`= !FIG 5!!IG 2GI @ \$? T A?J GII EG  
"!CDJ 2 F I @ \$? ,B@ \J @ GSSB GCD !2@ \*GS! \$?  
DU)J@@ 2 2? I B G D \*GS! \$? \$G G 0 ! @2! GI \$? ! !  
! \* D !AS \$ @ GCD 2? VBBD AG ! @ = XR=Y<

6"&.\$%) P5 \$? "!!! 2G2 @ B !FIG

4G@?G? /GIG G ? JEEJI ; BC2?GI 4J ! ;B2! 0?GF!

6"&.\$%) P5 R ?BB2!C !C !FIG "!!!@

.? G@GC2 ?BB2!C \$? 0?GF! @ @ B 2 !C ; BC2?GI  
@GC2@ !!SG @2B ! @ -B D ;!2A? C - B G D ?=B&R!<K

6"&.\$%) P PR\$? \$ @ B !FIG

! %DVG D 4JASU@ G GD E B 2? !FIG /G2J GI "!@  
ABC! @ BGS@ ?BDBD CD BC FG I @ AB CJ@ GCD IGJ  
B @2@ 0 @2 JA2!BC B IBAGI B @2 T !FIG \*IB GU E>  
4GE!C 2BC F!2? \*IB G !FI C!@ E> ! " C > 6BII 22 X8

6"&.\$%) PP R\$? 6 F 2 ! @

\$? BJ A F 2 !@ \$? BID A F 2 > C G 4G C @ 6BJ 2 GCD !  
2 > BC 2? AG 2 BGD BF BID @!D C2@ \$? 2?! D A I  
?!@2B > GCD 2BFE@2BC @ \$? BJ 2? A F 2 > T\$? /J  
6 F 2 > G2 GC BJI! =`L =`8

6"&.\$%) PP R !FIGU@ \*J2J

6B@2 B 2? % BDJ@ BF !FIG 2B 0 I?! 5GIJ B HB CF C  
B 2> 0 CA B !FIG G@ JFF 6G !2GI 0 EG2 @ !C -

R -!@2 B . @!D C2@ B 2? 4BG D B 6BC2 BI GCD  
. @BCGI 2G @ B 2? HB CB @ H C GI GCD 5!  
. @BCGI 2G @ B 2? 6BFFGCD @ !C 6?E8`R L<  
5 . @!D C2@ GCD A 2G !@ B 2? ,JC!A! GLX2R L`  
5 ?BB2!C )JI @ !C 2? "!!! 2G2 @ LKR 11  
5 )BJ2 @ !C 2? "!!!@R"!C2@ 2B 2 G II @ !FIG 2!  
-GCDBJ 0?G F@GIG - ? !CG G 6?GSS G2C  
5 ?BB2!C )JI @ !C 4G@?G? 2G2 =R Y

A

A

(ID ,G B !FIG 1K =  
,G B !FIG 1K=<  
\$? !FIG ;GISG )G!IVG> R  
5!A GI -BD BF . B@ A2 "!!! 1  
"BV , \$BFF> \$GD BI BD 2B !FIG =  
; CC D> "BJ@ GEBJ2 1KcY Q  
:?> !IS 2B !D J 2? ?! ?U !  
, @ \*! @ !C@!@2@ BC !D!C !C G D G C D >  
%C@! C . BC ?!@ BJ C > E> DGVS  
\$? "!!!@ O " 1L  
6BFE F 4 !D GEBJ2 1KYL  
0!22B 18LY  
!FIG ;GISG )G!IVG> ## d  
5! V B !FIG BF )G!IVG> \$  
!FIG )G!IVG> 2G2!BC ==  
&JASIGCD "BJ@ GCD A 2G >U@ -BD 1KYL =Y  
(ID S 2A? @ B !FIG E> , @ : - A B 2 2 =X =K  
"BV F> BBD@ V ABC > D BC 2? GCD \$!E 2 BGD  
!FIG @S 2A? @ GEBJ2 1KX<  
!FIG DGC@ -U"!FGIG>G (AA!D C2GI 1KX 1KXK Y  
. 2 ?B  
-B D GCD -GD> 6J WBC D ! !C 2B 6?J A? 18L=  
\$? ,BC2G J 6? IF@ B D ) B F@ 6BC CA =  
;!C %F B U@ 4! 2?DG> .G GD D JC 18=<  
\$? BCI> IGJ@!EI G@BC B 2? 6 !C 6 ! !C !C 6GIAJ22G  
S 2A? @ BF 0 I?! @S 2A? EBBS 1K<< <` ^X O  
0 GV!C B ! 6?G I @ / G !  
5! V@ B CBVDBC  
: DD!C G2 CBVDBC (A2BE 18==  
4G C @ 6BJ 2 d LL  
%!! @!! BC  
! B?C -GV CA U@ 6BJCA!! + KK  
-B D 0J !CU@ 6BJCA!!  
-B D -GC@DBVC U@ 6BJCA!! 1K8L 8  
-B D ) GD!C G ! !C G2 - !@IG2! &@@@ FEI> &J J@2 18=<  
! &I GCD ,JDD!FGC GCD ! \* D !A :?>2 b  
5!A GI -BD GCD 6BJCA!! B 2G2 6?GFE  
\$? \$ I G ? B !A 1LX  
, \$BFF> \$GD BI ABF @ 2B ! BC !FIG ,GII !C 2? G ! C @  
\$? !FIG ,JC!A! GI!2> O = (  
\$? ,JC!A! GI B !A @ Y  
22!C 2GCS@ G2 2? HJFG :G2 :B S@ 1 1 X  
6? !@2 6?J A? GEBJ2 1K`L  
6G2? D GI B G!C2@ ,!A?G I GCD B@ ? 1 = L  
%G I FBJC2 ) @!D CA B & A?E!@?B B !FIG 1 = =

	.&H%
:BJCD D B !A @ G2 !FIG 1K<` K	1 =
'C!2 D !A 6IJE	1=K 1
\$? .!CA B :GI @ \$? G2	1
; C2 U@ 0G! > *G F G2 \$G G 0 !	^
\$? )G!!VG> 6BC CA 18=Y	% 1Y=
*GCA> *G! G2 &CCGCDGI 1K 8	
)GA 6BJ @ G2 &CCGCDGI GEBJ2 1KYL	1 Y
&C &CCGCDGI H>FS?GCG	1 <
6B BCG2!BC * 2 G2 &CCGCDGI 1811	
&CCGCDGI BF 2? ,GII 1K8K	1 <
(GSB	1 <
,G?G G G@ B .G2!GIG GCD ! FJ	1 X
6B @2B ?GC@ "B2 I GCD 6 G @	1 X
6 A!! "B2 I 18LY	
. 2 @ ! ID	^
0GIW II @ "BJ@ GEBJ2 1KYX	1 X
\$? F !GI 4GCS B CD!G 18=<	1`L
6 A!! " B 2 I	
5! V@ B 6?GDV!AS	1`X
BF !FIG ) @!D C2@	1`K
\$? AG I 2 !F C I	1 8
4GCS 4J!!ID!C @	
!FIG ,GII !C :!C2	1 8
!FIG !C G@BC 1K<1	
!FIG BJ2 B 1 K@BC	
0 I?! S 2A? 4BBS D GV!C @	
!FIG @ G@BC 1K<Y	
\$? ;?>E .G@@ 1 K < 1	
\$? G@?!BCGEI J@ B G 6?!IJFA? 1K<<	
\$? ,G?G G G B 4?G G2 J U@ )!AS@?GV	
\$? 4IGAS " G 2@ 1K8`	
0!22B 18=Y	
\$? HGEI @ GCD 4 CDBA?>	===
6G ! CGCB 3' 6IJE7	==Y
\$? ) 2 G2 ,G@?BE G	==X
\$? GC BJI!2JCC I	==K
!ID IBV "GII 18LY	
0!22B 18=<	
0JSGC! ,G?G@J	
\$? -GSSG 4GWGG	
"!!! 6?! @ B !FIG	=YX
?BB2!C !C !FIG "!!!@	

C 1KLY 2? HJ S?G@ V?B ?GD @J D G @  
G2 2? EG22I B ;GC G G ?!II B 2 @@ GEBJ  
GAAB D!C 2B @BF GAABJC2@ 2? > IB@2 2?BJ@C  
BF D!@ G@ ABFF CA D 2B G G 2? @2G2 @ G  
F!22 D FGC> A @@@ GCD GAAB D!C 2B 'D?GE  
GF ?I 2 C2!2I D 2? T HJ S?G ABC\J @2 B & S!  
2? @ J@ JI GC!FGI@ B@ 2B )@ L G ? GD \$?  
EJ!I2 CJF BJ@ B 2@ !C 2? 4G ?GI @2G2 GCD  
G ? B 2 @@ VG@ 2? B !!C B 2? FBD C J2B  
GD B!C!C !FIG \$? B 2 @@ G2 GEG2?J @2!!  
\$? !@ G @ ABCD B 2 BC 2? ?!II SCBVC BF 2?  
4 C2!CAS G@ + 4!II> 4 C2!CASU@ CB@ Z CB 2?  
@GF D! A2!BC V?!I 2? FG!C@ B G BJ 2? A  
GC BJI! EGWGG J@2 E >BCD 2? @2G2!BC !F!2@  
2? B 2! ! D B@2@ E 2V C 2? JFCG GCD J2I  
2? ! J2?I @@ JI B 2? C ! ?EBJ !C ?!II @2G2  
V 2A? DC @@ G GI D 2B 2? 4 !2!@? B ? I  
T \$? BJ CGI B G \$BJ 2? BJ ? G 2 B 2? "  
4G!III \* G@ JEI!@? D !C 1K=L ! @ G ABCA!@  
GCD HJ S?G@ C G D !C 1K1< &I!JD!C 2B / GI  
D E> G IBC ABJ @ B @JAA @@ GCD ABC\J @2  
CA BGA?F C2 BC 4 !2!@? EBJCDG ! @ GCD G ABJ  
V?!A? G2 I C 2? !2 E AGF GE@BIJ2 I> C A @@G >  
G G!C@2 / GI @?BV D 2?G2 \J @2!BC@ B J@J  
\$! ?BB2 G JC HB JAS B GCD 4G !II> G@ V II  
V C 2? J2I GCD JFCG &AAB D!C I> BJ D!  
G2 0!CG B 4 CG @ , J2 GCD -JD?!GCG 2?  
B 4 !GD! H C GI 0G !D (A?2 IBC> V?B VG@ !  
2 C@! AIJ@2 B B@2@ ? ID E> 'FF !C \$?G  
I> G@ 2? HJ S?G@ BJ ?2 (A?2 IBC>U@ B A B  
!2> B 2? ?!II A?! @ 2BBS BC B 2 G 2 GCB2?  
@2 BC ?BID B !F B 2GCA JCABC\J D CGF I> ,  
AGII D 2? ,GIBJC !F C2 !C ABFF FB G2!BC B 2?  
!C V?!A? 2? HJ S?G@ A?G D 2B 2? FJWWI @ B  
GFBJ@ HJ S?G I GD VG@ S!II D FGC> B ?!@  
ABC2 @2 !CGII> 'FF !C VG@ BC 2? 1<2? ,G>  
B B@!2!BC !C 2? !A!C!2> B !FIG CD D ,GC>  
HJ S?G@ B 2?V!2? AGF B GCD B!C D BJ B A  
GI JCABFFBC !CA!D C2@ BAAJ D DJ !C B  
6G 2G!C 6 - ?BV @ 182? 4 C GI /G2! C GC2 >  
B !A !C @!C I ABFEG2 GCD @I V ?!F !C GC B C  
AG A I> ?GD ? DBC @B V? C ? VG@ @?B2 D GD  
V!2? @ A!GI GIIGC2 > VG@ -! J2 CGC2 -GV2! 36B  
II !C 2? AGF G! C ,J GI 2GEI 2@ !C F FB > B E  
4G B2 GCD 4 BJ ?2BC B 2? 182? 4 V?B II !C  
2 B?C @ 6?J A? 6GIAJ22G E> ! 0G !D (A?2 IB

0 1?! S 2A? 4BBS 1K<`

f 1 (: ,) \$ ( , , 9 \$ & 0 . ( - % ) ( 0 % \$ ( , - &

& 2 4JAS2 \$?G G @ AB @ ?GD E C BJCD BC  
@?GVI@ GCD @ C2 2B 'FF !C E> (A?2 IBC> G@  
G 2 FJA? G G2!BC ?GD E C FGD 2? 2VB V!D  
+ @J22 Z V!2? ?!@ EBD> !C !V B EB2? B A @  
! ?2!C BIIBV D G B CF C2 BAIGFG2!BC E>  
2?G2 GII ?!! A?! @ V?B ?GD B!C D BJ B A @ !C  
IGCD@ @2B D GCD @?BJID C B> 2? E C !2@  
! ?2@ GCD !!! @

\$VB @2G2 @ GIB @ CGF I> ; BC2?GI GCD 4G ?  
B 2!BC@ B 2? ! 2 !2B ! @ G@ 2? > G CB G@@  
B A @ \$? @A? G2 D IGCD@ V @BID 2B 2? ,C  
C@ @ B 2? AGF G! C GCD @B ? E AGF 2B G  
A?! @ \$? !IIG B ;GISG G2 2? BB2 B 2? ?!  
V IG2 BC 2 GC@ D 2B 2? 4 !2!@? HB CF  
\J!@!2!BC B -B D "G DF "!@ "! ?C @@ J@!C  
2? IGCD 2?J@ ! C J

&FBC B2? IGA @ V?!A? V 2G!C D G@ F!  
GEG2?J GCD ;B2 G ? 2? B F ?G !C E C G @  
IG2 BC G BI!2!AGI G C2 V?B VG@ ! C ABC2 BI  
2? B@2 VG@ G G C2!> !@2 ? ID E> 2? B !A  
\$?!@ AB @ VG@ G!@ D BF 2? FCGC2 B 2?  
@2 J I V!2? 2? 4 !2!@? IG!D DBVC 2? ! G F@  
GCD B F D G EG22GI!BC V?!A? VG@ B@2 D 2B C  
1@2 HJ S?G )! I @ & @ ABCD EG22GI!BC VG@ @  
!C 1K=L

% C 2B 2? @ C2 DG> 2? ?!! B I 2GIS B  
G>@ G CG2! V !2 BC 2? @JE A2 + \$? HJ S  
CB D!D 2? > AG B GA GCD B@ !2> \$? >  
! ?2@ B B2? @ GCD ? CA 2? ! JI !C 2? ?!!  
!C A2!BC J!CBJ@ 2B 2? ?!!! @JE A2@ JCD 2?  
\$? > 2BBS F A> J BC CBEBD> CB D!D 2? !D G B  
2B 2? F \$? > ?GD @JA? G D @! B C 2?G2  
2? > VBJID CB2 B J 2? @B IBC G@ !2 VG@ CB

, 6 \* CA? V?B !@!2 D 2? !IIG B G!C  
!C 1K K @G>@ 2? !C?GE!2GC2@ B 2?G2 IGA 2G  
B 2? 4 !2!@? GCD 2? 2> GCC> GCD B @!BC  
\$? > DV I2 BC 2? @ B!C2@ V!2? B B 2!BCG2 C  
2? > 2BII D BC 2? > D AG2 D 2? B2? \$? >  
BD!BJ@ !C A2! !2? 2@ 2? > AB5!ID G2? BF  
D AIG D 2?G2 2? > V @AG A I> GIIBV D 2B 2G!  
BCA !CA D !C G !GEI> 2 F!CG2 D !C E J2GI FJ D  
2!F @ 2? HJ S?G@ @V 2 G V?BI !IIG B !2@ !C  
IJCD !C 2? ! B 2>

(C 2? B2? ?GCD GJ2?B !2! @ G CB2 VGC2  
A @ @ GCD A J I2> ?G E C FJA? G G2 D E  
G@BC V?> 2? 4 !2!@? 2BBS J G F@ GCD II D

B 2? ! G!D@ GCD G D !IE G2 @>@2 F B CA E  
GC> !IGE! B !C!BC BF 2? ABC2 GD!A2!C AB  
&AAB D!C 2B G ) , -BC V?BF , : " 6G  
HJ!D B 1K`L !FIG D ! @ !2@ CGF BF T ?> G  
A2 D E> G GS! BC GSSB 2? ! @2 CJAI J@ I  
E !2 CB2 D !@ G D D E> FGC> B I G@ GCA  
T ?!FIG? U B T ?JFIG? U G@ BCBJCA D E> 2?  
V?!A? 2? @2G2!BC 2GS @ !2@ @ C2 CGF  
, : " 6G > V?B VG@ G GCD @BC B 2? )  
B 2? GF B 6BII BC 2? "BB ?!> V B2 +  
"BCBJ GEI B?C 6BF GC> Z !C 2? BIJF @ V?!  
GCD D!2B B 2? T !FIG & J@ U  
\$? B !!CGI !IIG B !FIG VG@ @!2JG2 D BC  
@ C2 @ A 2G !G2 EJ!ID!C @ GEB 2? BGD I  
!FF D!G2 I> E IBV 2? )BFGC 6G2?BI!A A?G I  
?BJ@ & D 2GA? D B 2!BC !C?GE!2 D C2! I> E  
@ J @2!!! J 2? G@2 !FF D!G2 I> E IBV 2? @  
CBV @2GCD@ &2 2? E !CC!C B 2? IG@2 A C2  
!IIG 2GS C BF 2? ?!CD )GCG !C 1K1< GCD !  
CD D 2B 2? 4 !2!@? !C 2? / GI VG @JE@ \J  
2G !JF 2 !@ @G!D 2?G2 2? ! @2 @BC V?B E  
V?B V? C FB !C HJ S?G 2 BB @ BF GEG2?J 2B  
2? BJ ? !FIG 2? C G D C@ JC I !C @2 D V!2?  
2 F G2J B 2? IGA 4J2 !2 !@ AIG!F D E> ,  
2?G2 2? ?!!! BC V?!A? !FIG !@ @!2JG2 D VG@ !  
E B2? @ H G D 2VB AB2A? B !A @ V?B V C  
\$? ! D!G > DG2 D &J J@2 L2? 1K1` GC + !F  
GS! !@ @!2JG2 D 2B ! VG2 2B 2 G II @  
GCD ?GD G > 2 C@! GCD E GJ2! JI B@ A2  
\$? V 2? E B2? @ H G D !C CD!G G2 2?  
VG D@ 6G 2G!C7 &I GCD H G D =`2? /G2! C  
GCD @J >B GCD 2! D BF 2? @ !A BC 1<2  
B + \$ G I@ !C ;BBCGVG Z 34G@?G? 7 !C 1KY1  
VG D@ 6G 2G!C7 .G2 !AS H G D 82? /G2! C G  
!C GI!D D BC 2? X2? &J J@2 1K = GCD 2? 2?! D &  
4 C GI , D!AGI !A G S C IB GCD B 2 D  
E >BCD ;B2 G ? V?B D! D G2 GEG2?J BC 1@2 ,  
H G D @ D V!2? 2? 1@2 /J@@ EG22GI!BC  
H G D@ AGF D VG@ BEGEI> @BF V? GEB T  
D! A2 BF 2? V @2 C !FIG !IIG 3C G 2? @  
@ C2 EGWGG V?!A? VG@ 2? C G D C@ B @2  
V @ A!GII> F C2!BC D !C H FGC @A! C2! !A B  
FGS!C G BJ C >!C J GSSB BF !FIG G D!@2G  
DG>@ @G!D R+ 2? BGD VG@ @2 GCD BAS> !C  
2 @ V!2? > 2?!AS JCD BV2? V?!A? !@ JII B  
C ?!@ CG G2! B G T BJ C > BF 6GVC B

\* B F G S 2A? B F C G 2J

; % // % 0 9 " ( ' % & 4 ( ' \$ 1 K = Y  
3 \$ " % \* ) \$ " ( ' % 4 ' - \$ / , - & 7

E > ( G 2 G ! J

:!!!GF -IB>D 2 II@ ?BV ? GCD ,G B 6IB@ 2?  
!CD?!GU@ ABJ 2& GAGD?J!BIG X2? ,G> 1K=1 \$?  
? @G>@ VG@ > G2 EJ2 + 2? FBJC2G!C G!  
!C@ GCD 12 G@ ! ABJID ?G EBJCD D ? GI  
@ JC C!FEI> J 2?! GE J 2 @!D @ V!2? DG !C  
V?!A? AIB2? D 2? @!D @ B 2? !FIG ?!!!@ FGD  
2 G II @ V?B G 2 @ !C G @JC !@ BF GSSB  
C > D BC 2B ,G?G@J GCD 2? CA !C2B 2? !C2 !B  
!2@ @JEI!F!2> AGC E GA D BF BJ F!CD@  
? ?GD GA? D \*G J \$?!@ GJ2?B ?G@ !C ?!@ E  
6G 2G!C &I GCD H G D  
\$? !A2J ? ! C B T ; CC D> "BJ@ U G@ !2  
2? ! @2 !A2J FGD B !FIG 2 VG@ D GVC BC  
JEI!@? D !C -BCDBC !C 1K !C ?!@ T 5! V@ B C  
D D!AG2 D 2B 2? %G I B &F? @2 &@ 2? GJ2?B  
C@ B !IC C G !C !CDJA D ?!F 2B D GV 2?  
V !2 GI@B @G>@ + GII V?B ?G !@!2 D 2?!@ A?  
C D>U@ S!CDC @@ GCD ?B@ !2GI!2> Z  
\$? B !A!GI ?!@2B > B 2? !FIG T !IG\G U B D  
2? 22! F C2 ) B 2 BC 2? !FIG D!@2 !A2 E> 6BI  
V?!A? 2? BIIBV!C 2 GA2 !@ 2GS C R  
+ \$? IGCD@ B F!C 2? T GCCG? U GCD 2?  
E IBC D ABC B!C2!> 2B 2? ,G?G G G B .G2!GIG  
G@ 1K=Y %J B GC C2! F C A?! I> !C GI!D@ BF  
B 2? @ A?! @ @2GEI!@? D 2? F@ I @ !C 2?!@  
2? F C2 GCD V!2? CB B2? @2! JIG2!BC 2?  
@IGJ ?2 B S!C GCD 2? !!C B 2 @ JCI @  
B !2B @ B 2? IGCD \$? @2G2!BC E AGF G  
!C 1K L 2? B CF C2 D! A2 D 2?G2 C B2!G2!BC@  
B .G2!GIG GCD ; BC2?GI B G@ FJA? IGCD G@ V  
&AAB D!C I> ,G B ; CC D> 2? 2? C BI!2!AGI G C  
)GCG B ; BC2?GI B ?!@ B 2!BC B 2? !FIG ?!  
>! ID!C GC @2!FG2 D CJ B )@ 8K` FGS!C  
B )G C >! ID!C GC GCCJGI CJ B )@ 1 =K8  
2? ! @2 ABC\J @2 B 2? @ ?!!!@ G@ !2@ B@!2!  
B@!2!BC & B 2!BC B 2? 2G!C D GCCG? B  
!!IG @ VG@ G2 2? @GF 2!F FGD B 2B 2? ,  
B 2!BC B !FIG V?!A? VG@ ! AIJD D !C ?!@ 2 !  
)@ =Y< GCCJF Z N  
C 1K 1 , 5!A2B GA\J BF2 2? 2GI C2 D \* C  
@G!D !2 VG@ + 2? @B 2 B 2? !A? 2? !DI G  
2? BI!2!AGI @ !A B 2?!@ 2 F!2> B 2? F!  
G B E 2?BJ ?2 ?!F@ I C!C > G @ !CA B I G  
? G2 B G 2 !EI @JFF GCD CAGF !C JCD 2?  
AGF 2B !@!2 ?!F 2? \$? @!2JG2!BC GCD A  
?JCD D@ B FBJC2G!C @ V @JFFBC D V?B I

JD I> GCD G@@!@2 D E> VB SF C BF 2? IG!  
?BJ@ %GA? B 2? J @2@ V!@? D 2B ?G BC C  
@AG22 D B 2? GS@ B 2? FBJC2G!C@ B 2  
!IG ?G@ !@ C G@ ! E> CA?GC2F C2 Z  
\$? B !A 2B V?BF , GA\J FBC2 ? GIIJD @  
ABFFGCD!C G2 GEG2?J GCD VG@ 2? ! @2 .BI  
?!II @2G2 @ & @!D CA V?!A? !@ D @A !E D G  
?GD E C EJ!I2 !C 1K18 E> -! J2 CGC2 )B@@ 2? C  
; CC D> "BJ@ U CGF D G 2 !2@ BVC G G @  
2? ! @2 FGC C2 ?BJ@ !C !FIG BF 2 GD!2  
T 6BC@2GC2!G U CBV 2? T ,GC@ U I>!C GIBC  
CGF D T 2! !!C 6G@2I U G@ 2? @ ABCD BID @2  
2? 2?! D IGA EJ2 BID AB D@ B!C2 2B 2?!@  
@2GC2!GI DV !!C !C 2? @2G2!BC ?G E C 2  
2?!@ ?BJ@  
C ABCC A2!BC ?BV V!2? 2? \J @2!BC B V  
EJ!I2 !C !FIG 2? BIIBV!C 2 GA2 BF G I 22 D  
2B & A?D GABC !/ABII@ 6? !@2 6?J A? -BD !FI  
+ \$? ?BJ@ !C V?!A? >BJ G ! ! !C VG@ B ! !CGI  
1K=X 2 VG@ 2? BCI> ?BJ@ !C !FIG " AGII  
V? C ! @2 !@!2 D !FIG GCD 2? ?BJ@ !C V?!A  
!FIG 2? ! @2 HB CB H C GI 2B DB @B !C 1K  
?G G ! A B IG2 @ C2 D 2B F> G2?  
F C2 B 2? D!@!C2 @2 D GAABFFBDG2!BC G B  
GCD ?!@ @J!2 Z  
C 1K = 6G 2G!C ,JCD> V?B VG@ G!D D AGF  
JEI!@? D G BJ CGI B G 2BJ !C CD!G : !!C I  
2VB G 2! @ B 2BJ !@2@ D!C D V!2? 6G 2G!C ; C  
& F ! FGC C @ C2 GC ?BJ U@ 2GIS V!2?GI  
? @A !EEI D B ?!@ BVC GFJ@ F C2 GCD G@ G  
!@2BIG > A2G2!BC@ G2 ?BF GCD 2?G2 !2 VG  
%C IGCD 2?G2 BF 2 D E> 2? CABJ G F C2 B  
CD D D @ G2 E> V?G2 FG> GIFB@2 E @G!D 2  
? BJCD ?!F@ I AB A2!C 2? BB @  
: !!C B !FIG ? @G>@ T \$? BI!2!AGI G C  
G2 !FIG G CGF ! C 2B 2VB B 2? F!@ GEI  
CB 2? G@2 B JEEG2BB E >BCD 2? 4 !!@? DBFI  
)GC B JDGI EG BC @@ B 2? JI B G @FGII  
@AG A I> E D!C ! ! D V!2? 2? 2!2I B \J C \$?!  
)GCG B ; BC2?GI \$? AI!FG2 B !FIG @BBC E AG  
@B 2 D 2? GCD EJ!I2 ?BJ@ @ !C@2 GD B E  
2? 6G B HBBD "B V!2? !I22I ?B B GA?!C !  
G@?!BCGEI E> 2? B CB C GI -B !I &F? @2  
B @ GI FBC2?@ GCD E BJ ?2 EGAS 2B 6GIAJ2  
D GV!C @ E> -GD> G G? &F? @2 2B G22 @2 2?  
2? @ B2 Z

0 1?! S 2A? 4BBS 1K<X

: " 9 - ; % \$ ( ) 0 % ' . \$ " % " - - \* & ( ; ; &

6G 2G!C ,JCD> V?B ! @2 GA? D !FIG BC ,G  
G ! GI + (C GA?!C !FIG V !2A? D BJ 2 C2@  
BJ C2! @J!2 B V?!2 !!C C B G AB@2JF FB  
2B J@ G G D GIFB@2 !CAI F C2 !CD D !2 VG  
D CA? D !C F> E D E> 2? G!C V?!A? !I !C 2B  
2? @!2JG2!BC B BJ 2 C2@ @B B@ D 2?G2 IG  
EIBVC GVG> EBD!!> !C2B 2? GII > <LL 2 E IBV  
?!@ @J BC GCD G!D D AGF @2GEI!@? D !C  
3; CC D> "BJ@ 7 G 2? 2 @2 B 2? @2G V  
!@2!C ?BJ@ @ B EJ@!!> F IB> D !C EJ!ID!C F  
\$? \J C2 AIG@? B G GCD ?GFF ! !D CA  
G IGEBJ !C 2B B !D BB @ B 2? F@ I @ E  
FJA? 2!F 2B @ G RBFFJC!AG2!BC E 2V C 2? @  
GCD 2? EGWGG @ !@ @ AJ D E> V !I B F D BG  
@G 'B G@@ C @ "BV DJ !C BJ @B BJ C  
J2 !C G D> E> DG S C! ?2@ GCD ?B@ !2GE  
+ ,GC> B 2? !FIG ?BJ@ ?BID @ ?G GI GD>  
B AGEEG @ GCD B2G2B @ GCD B2? 2GEI  
2? ! !C FG SGEI> V !I !C 2? @ A!IFG2 @ 6G 2C  
!2 2? BJ ? 2? D!@2 !A2 GCD 2? BB CG2! @ V  
J!2@ B G CB2 > BDJA2! @B!I G CB2 G !!2  
B !@!BC@ Z  
\$? ?!@2B > B ?BV 2? B2G2B AGF 2B E AJ!2  
!C2 @2 G@ IG2 BC 2? ?!II F C !C 2? ! G C  
FJA? B 2? @ I CD!D B @2 I>!C E 2V C ,G?G@  
2?G2 2? @B!I ?G !C IB@2 2? CG2J GI B2 A2!B  
2? GCCJGI FBC@BBC GF@ !C2B 2? @2 GII >  
AJ !C @ V? ,G?G@J B2G2B IGC2G2!BC@ !C !2  
2!BC@ Z G@ GC G I> V !2 ?G@ !2 2? B2G2B  
!FIG D!@2 !A2 GCD G 2? ! !C 2 GD !@ AG ! D E  
BBD E 2V C 2? " !FGIG>G@ C GII> GCD 2? IG  
6G 2G!C ,JCD>U@ D @A ! 2!BC B ?!@ @!D CA  
E> 2? FB B 2JCG2 !FIG G!D @ D AGF B 2?  
+ !CD 2? 2? FBF 2 !C ,G> VG@ C ?! ?  
F>! \$?!@ G G 2F C2 BAAJ ! D E> F DJ !C BJ  
EB2? 2B ? G2 GCD ABID E !C !C GA2 B 2?G2  
J@JGII> D B2 D 2B A? @ @ G I @ GCD BC!BC  
A !!C B 2? D!C!C BBF GCD 2? VBBD C C2 E  
!C G @IB \J!2 2B 2? IBB BCI> GDF!22 D B I  
\$?BJ ? 2?!@ AGCB > B IGCS@ VG@ !!C D V!2? V  
AIJD D 2? G!C@ 32? EJ G EJ @G2g7 @B F  
GC!FGI ABJID ?G V!@? D GCD DJ !C @BF B  
V!2? @JA? @2JCC!C A2 J BC 2? D JF !!S U BE  
V S G 2 \$?!@ F> GI2 D DB F!2B > VG@ CD  
EJ2 !C @ !2 B !2@ @JCD > D @G F C@ 2?G  
EBJ ?B D VG@R B F> IJAS !C 22!C GC> @? I

!C 2? @ C2 A BVD D @2G2 B !FIG C B> D  
F> V!CDBV@ 3 E G DBC V!CDBV7 GCD 2? IJ  
V? C 2? G2@ @J@2G!C D GC 2 CGI AG C! GI  
:?!22!C 2BC DJ !C ?!@ !@2 V S !C -BCDBC  
G G!C@2 2? BB !C J @J!2 B 2? @ BJ BB2 D  
2B 2? ! CBA2J CGI B !@ GCD S 2 G AG2  
+ \$? 2 F G2J B !FIG @ F@ AJ!G I> GDG  
T \$? @AB A?!C G>  
" ! A 2? CB2 !F CG2 V!2? D!@ G  
( : ?G G@BC 2B E 2?GCS JI 2?G2 V G ?  
? !A @2 G2G 2?G2 ?G ?!2? 2B E C @JE A  
G !C G2 6GIAJ22G \$?!@ D @2 JA2! @2!! C  
G@ JEEG2BB @2 V!C -B D &F? @2U@ !!C B F  
B 2?!@ !!22! GEBD B "> !G !@ V !I G22 @2 D  
IGD! @ V?B IGD!> FE GA 2? !CABC C! CA @ G2  
GCD VGC2 B \J! G @ B 2? GD GC2G @ GAA  
GCD 2? ! A?!ID C (J CG2! @ GC2@ G2 ! @!  
C J@ D 2B C2 2? ?!!@ EJ2 B2? @ V  
B GDD!2!BCGI VG F G!F C2 2B GAABF GC> J@ Z  
6G 2G!C ,JCD> 2?J@ D @A !E @ -B D 6BFE F  
+ -B D 6BFE F GFJ@ D ?!F@ I GCD E C !2  
2? B FG2!BC B G !C E BGD I I BGD BJCD  
!C 2? 2 VG@ VB S D C2! I> E> ?!IF C GCD  
V? C !C!@? D E G G2 GA\J!@!2!BC 2B 2? IBJ  
\JG 2 B G F!I BF 2? 2BVC ?!@ -B D@?!  
E !D B !C @ GCD JCD !2 G AG GA!BJ@ @2  
G2 @AG A!2> B VG2 Z \$?!@ E !D V?!A? @2  
2? ! @2 @2 U 2BVG D@ 2? !F B F C2 B !  
2? ?BJ@ @ GCD CB BGD@7 GCD !2 ABJC2 D  
6?B2G !FIG B )GCD!CB2!C !C 1KYX 6G 2G!C  
G !C G@ + G D BC DBVC V?B@ @!D @ !C 2?  
C2 0J !C 2? B @@ B 2?!@ F!C!G2J !F!  
E GS G@2 GCD 2?B@ G 2 @JC@ 2 2? G22 CD  
!C 2? B FG2!BC B 2? F!C @ B EIG@2!C 2?  
FGS!C B2 @\J J@2!A G EBJ @ G2 !C2 GI@ B  
EIBAS@ B @2BC V?!A? FB D E> I @ B 2?  
2? BJ ? 2? VBBD C D A! !2> !C2B 2? GII > E IB  
@! !!C D @A !E!C 2? 2 B GD@B @JA@C2 B? 2??  
?GI B 2? BGD VG@ ABF I 2 D 2? VB SF C V  
2? > V 2B G@2 G 2 ?G !C B D 2? F G@  
&@ 2? @ GC!FGI@ D!D CB2 ?BV ?!E!2 2  
BC E !C ABC BC2 D V!2? 2? !!22! F!@@?G C !I  
,JCD> BA D@ 2B D @A !E ?BVR+ \$? B !A!G2  
@BI FC!2> DJ 2B 2? BAAG@!BC 2BBS G FB2? J  
G B G @? \$? !A2!F @?BBS !2@ ? GD 2? F  
ABC G2!BC 2? ! @2U@ T SJS ! U !FF D!G2

, ! @ \* ! @ ! C @ ! @ 2 @ B C ! D ! C ! C G D G C D >

0 ! ? ! S 2 A ? 4 B B S

% C @ C . B C ? ! @ B J C > E > D G V S

!2@ EBD> VG@ \J!ASI> BG@2!C E B G ?J !C  
BJ2 2B 2?!@ DG> E> 2? ?!II A?! @ V? C 2? > V  
AGII D T 4JDFBB U

4 B I G !C !FIG BC (A2BE =L2? 1K=K 6G  
@! DR+ AGCCB2 DBJE2 EJ2 2?G2 !FIG V!!! !@  
E 22 SCBVC 2@ D !! ?2 JI A!FG2 !@ @J 2!  
E GJ2! JI @A C > ? GI2? JI 2 F G2J\*+ GCDGGG  
V?!A? 2? > V!!! 2? C B> V!!! !CDJA 2? B C  
A?! 2B @B 2 2? DJ !C 2? !B2 FBC2?@ !C  
B !CA @ Z

, 5!A2B GA\J FBC2 V?B VG@ 2 G III C CG2J  
?!@2B > !C .G !@ JEI!@? D !C 1K Y 2? I 22 @  
JCD 2GS C E> B D B 2? \* CA? HB CF C27 E  
V !22 C 2B ?!@ G2? GCD !C BC B 2? F DG2  
FIG? !FIG !FIG?\*3#2,? @2G2!BC 2? C ABC@!@2  
! @ 2? BIIBVIC C2 2G!C!C GAABJC2 B !! !C  
+ .B ?> ?G@ G !?2 2B E GIBJ@ B F> ?  
G 2!!! > AG 2G!C B ?!@ BVC G GCD !IS ?!F  
?JCD D 2?BJ@GCD GCA@ G > G GCD ABFFGC  
E @2 AB @ !C 2? G F> " B F@ 2? DJ2! @  
2? @GF !CD CD CA G@ 2? H GCD \$J S ?!@ B  
C ! ?EBJ !C )G G?@ "!CDBB@ \$G 2G @ \$!E 2GC  
?GC @ V? C ? 2?!CS@ B

+ \$?!@ ! @2 B GII G 2!!! > AG 2G!C@ !C 2?  
DJ2! @ B ?!@ !A B>GI2> BAAJ > B BC ?BJ G  
?!@ 2!F !C IBGD!C F V!2? S!CDC @@ " ?GD  
FJ2JGI !CD@ ?G !C !C B F D ?!F B F> D @! C  
2? @2! @2 B DGCD! @ 2? FB@2 B FGI GCD  
CB2?!C B )GII!2?B@@!EI 2B E G E 22 IIBV :  
2? FB C!C BC 2? FG C! !A C2 BGD@ V?!A? ?  
I GC2 AG GIAGD GFBC V?!A? F 2 @BF B F  
2J C V ?G GC I GC2 GCD A? A? E GS G@  
D!@ B@GI B F> DG> GCD 2?G2 B F> ?B@2 V? C  
2!BC 2B !V F C GCD 2?!C @ &2 @JC@ 2 @?  
B2? !D 2B E G2 J 2? FB@2 !CDI> GCD !! I  
GII!D@ V?BF V FG> A?GCA 2B F 2 \$? > G E  
EGA? IB @ GCD @BID! @ EJ2 @BID! @ F IB> D  
!C2 @2!C B I !C CD!G 2B F : @!2 DBVC 2  
@ C GCD !@ G2 I C D !CS ?BAS AIG 2  
FGIF@ > 2? B2? @ GII !C 2? ABIDC @@ B  
FGD ! G DB CB2 ABII A2 ?G !& 2G@2 D VG2  
2? !@ CB A @@ EJ2 G2 A? JIC @@ >  
D !! ?2 JI 2?!@ G G @ 2B F G 2 2? D >C @@  
F> @BI!2G > D!CC DJ !C 2VB FBC2?@ !C 2? FE  
2B G> B "G !C 2? G BGA?!C B@ A2 B B  
@!D B3 2? !IFGIG>G C F>@ I E> GC2!A!





































































































































































































































































































































































































































































































































































































































































































































































































































































