

# **MUSC2113**

: ]`a 'A i g]W

HYfa 'C bY''##'&\$&\$

# 7ci fgY<sup>-</sup>Cj Yfj ]Yk

# 'GhJZZ'7cbhJWh'8YhJ]`g'

# 7cbj Ybcfg

B Ua Y	9a U]`	5j U]`UV]`]hm	@cWUh]cb	D∖cbY
>c\b'DYhYfgcb	^dYMYfgcb4 i bgk "YXi "Ui		C <b>Z</b> ]WY '%\$) ž	- ' , ) '( , +\$
		%%"\$\$da /H\i fgXUm		
		%%"\$\$Ua '! '%&"\$\$da		
			K YVghYf'6`X[	

#### "@YWhifYfg"

B Ua Y	9a U]`	5j U]`UV]`]hm	@cWJhcb	D\cbY
>c\b`DYhYfgcb	^dYhYfgcb4 i bgk "YXi "Ui	A cbXUm‰"\$\$Ua '! ‰"\$\$da /H\i fgXUm ‰"\$\$Ua '! '‰"\$\$da	· ·	-',)`(,+\$
			K YVghYf 6 X[	

### 'Hi hcfg'

B Ua Y	9a U]`	5j U]`UV]`]lm	@cWUh]cb	D\cbY
>c\b'DYHYfgcb		A cbXUm%;"\$\$Ua ! %;"\$\$da /H\i fgXUm %;"\$\$Ua ! '%;"\$\$da	,	-',) (, +\$

# GWXcc`7cbHJWh′±bZcfa Uh]cb

Fcca " & ž~Yj Y~" FcVYfhK YVghYf~6i ]`X]b[

D\cbY.'f\$&E'-',)'(,)\*

9a U]`. 'gUa 4 i bgk "YXi "Ui

K YVg]hY. \hhdg.##gUa "Ufhg"i bgk "YXi "Ui

 $\text{H} Y \text{-} G \text{V} \text{A} \text{cc} \text{-} \text{cZ} \text{-} \text{h} Y \text{-} \text{5} \text{ fig} \text{-} \text{U} \text{b} \text{X} \text{-} \text{A} \text{-} \text{Y} \text{]} \text{U} \text{-} \text{k} \text{ ci} \text{-} \text{X} \text{-} \text{]} \text{L} \text{Y} \text{-} \text{lc} \text{-} \text{F} \text{-} \text{Y} \text{gd} \text{Y} \text{W} \text{\textbf{Z}} \text{ ``m'} \text{5} \text{V} \text{\_} \text{b} \text{ck} \text{``Y} \text{X} \text{[} \text{Y} \text{-} \text{h} \text{Y} \text{-} \text{H} \text{f} \text{U} \text{X} \text{]} \text{H} \text{cl} \text{``Z} \text{]} \text{U} \text{bg} \text{Z} \text{-} \text{C} \text{-$ 

# 7ci fgY 8YW] g

7 fYX]hDc]bhg\*\*

Gi a a UfmcZh\Y 7ci fgY

Gi VYWh5fYU. ? ge[U

H\]g'Wci fgY'cZYfg'ghi XYbhg'h\Y'cddcfhi b]lmhc'ghi Xmh\Y'\]ghcfmcZh\Y'fY`Uh]cbg\]d'VYhk YYb'a i g]WUbX Z'a 'UbX'hc'[ U]b'Ub'i bXYfghUbX]b[ 'cZh\Y'a U]b'\]ghcf]WU`XYj Y`cda Ybhg'gi ffci bX]b[ 'h\Y'i gY'cZa i g]W]b Z'a "'H\Y'cddcfhi b]lmhc'UbU`mgY'j Uf]ci g'Yl Ua d'Yg'cZZ]a 'a i g]WEhU\_Yb'Zfca 'h\Y'g]'YbhYfU'h\fci [\'hc'h\Y dfYgYbhXUmž'U``ck g'ghi XYbhg'hc'Yb\UbW'h\Y]f'i bXYfghUbX]b[ 'cZh\Y'fc`Y'h\UhWca dcgYfg'Zcf'Z]a 'd'UmYX']b h\Y'i gY'cZa i g]WUg'dUfhcZh\Y'fgci bX!hfUW\_ficZU'Z]a "'H\YfY']g'U'dUfh]W'`Uf'ZcW' g'cb'Yl d`cf]b[ 'UbX ]bj Ygh][ Uh]b[ 'h\Y'XYj Y`cda YbhcZa i g]Wg'Z bWf]cb']b'WYUh]b[ ž'cf'Yb\UbW]b[ z'fa YUb]b[ fi]b'j Uf]ci g'[ YbfYg cZZ]a žk ]h\ gdYWZ]WfYZYfYbW'hc'h\Y'a cghfYW\bhfYgYUfW\']b'h\]g'UfYU"'H\Y'Wci fgY'cZZYfg'U'VfcUX'fUb[ Y cZYl Ua d'Yg'hU\_Yb'Zfca 'Z]a g'XYj Y`cdYX'bchcb`m]b'h\Y'I b]hYX'GHUhYg'fk c``mk ccXłž'Vi h'U`gc'Zfca '7\]bUž >UdUbž'\bX]Už'9i fcdYž'6f]hU]bž'UbX'5i ghfU`]U"

### 7 ci fgY @YUfb]b[ Ci hWca Yg

- %" ]XYbhjZnž'WUgg]Znž'UbX'Yj U`i UhY'h\Y'j Uf]ci g'Z bWjcbg'cZa i g]Wk ]h\]b'U'j Uf]YhmcZZ]`a '[ YbfYg'UbX ghm`Ygž'Zfca 'U'j Uf]YhmcZW `h fYg''
- &" XYa cbghfUhY h\Y 'UV]`]hmhc X]gW gg h\Y i gY cZa i g]W]b Z]`a i]b 'U gWkc`Uf`mUbX`]bZcfa YX a UbbYfž YgdYW]U``mk ]h\ ]b h\Y 'WcbhYl hcZh\Y 'UWUXYa ]W`]hYfUhi fY cb'h\Y hcd]W"
- "XYa cbglfUhY 'h\Y]f"\_bck `YX[Y`cZh\Y`\]ghcfmcZZ]`a `a i g]WUbX`U`j Uf]YhmcZZ]`a g`Zfca `U`j Uf]YhmcZ [YbfYgža UbmcZk\]W\`ghi XYbhg`a Umbch\Uj Y`dfYj ]ci g`mYbWci bhYfYX`cf`\UX`h\Y`cddcfhi b]hmhc ghi Xm]b`XYhU]`"
- ("Udd`mh\Y`h\YcfYh]WU``\_bck`YX[Y`X]gW ggYX`h\fci[\ci hh\Y`Wci fgY`]b`U`WfYUhjj Y`a UbbYf`j ]U`h\Y Wca d`Yh]cb`cZU`g\cfhZ]`a `gWcf]b[`YIYfW]gY`h\Uh]bj c`j Yg`j Uf]ci g`UgdYWg`cZZ]`a `Wca dcg]h]cb"

### HYUW ]b[ 'GhfUhY[ ]Yg'

Ghi XYbhgʻUhhYbXʻUʻk YY\_`mihk c!\ci f``YWhi fYʻcbʻ`Zj`a 'a i g]W\]ghcfm'UbXʻUʻk YY\_`micbY!\ci fʻhi hcf]U``cbʻ`Zj`a a i g]Wh\Ycfm''`6ch\```YWhi fYgʻUbXʻhi hcf]U`gʻk]```Wcbg]ghcZUi X]cʻ'UbXʻUi X]c#]gi U``XYa cbghfUh]cbgʻcZWci fgY WcbhYbh'

H\Y`Wci fgY`]g`WcbWffbYX`k ]h\`]bj Ygh][ Uh]b[ 'h\Y`\]ghcf]WU``dYfgdYWlj Yg`gi ffci bX]b[ 'h\Y`XYj Y`cda YbhcZ a i g]W]b`Z]`a ž'Ug`k Y```Ug`h\Y`]a dUWicZg][ b]Z]WUbhiWca dcgYfg`UbX`Z]`a 'X]fYWcfgžgcW]YhU``W\Ub[ Ygž'UbX XYj Y`cda Ybhg`]b`H\W.bc`c[ mh\Uh\Uj Y`cWW ffYX`Xi f]b[ 'h\Y`h\ Ybh]Yh\`UbX`h\ Ybhn\Z]fghW\bhi fn'i=b UXX]h]cbžUb`YI Ua ]bUh]cb`cZ\ck 'a i g]Wa ][ \hWfYUHY`U'j Uf]YhmcZa YUb]b[ g`cf`]bH\fdfYhUh]cbg`k \Yb`UXXYX hc'j ]gi U``]a U[ Ygž'UbX`]rg`dgnW\c`c[ ]WU``]a dUWicb`h\Y'j ]Yk Yfž'k ]```VY`dfcj ]XYX`UbX`UggYggYX'j ]U'h\Y Wca d`Yh]cb`cZU`WfYUh]j Y`Z]`a !gWcf]b[ 'YI YfW]gY''`Ghi XYbhg`UfY`ghfcb[ `mYbWci fU[ YX`rc`Udd`mh\Y`a cXYg`cZ`]ghYb]b[ 'UbX'j ]Yk ]b[ 'XYa cbghfUhYX`Xi f]b[ 'h\Y`YWli fY`gYf]Yg`rc`h\Y]f`ck b`YI dYf]YbW'gž'UbX`U`` UggYgga Ybhi]hYa g`UfY`]bhYbXYX`rc`dfcj ]XY`Ub`cddcfni b]hmZcf`Wf]h]WJ``UbX`UbU`mh]WJ``X]gW gg]cb gi ffci bX]b[ 'h\Y`ghi XYbh}⁄a3g`ck b`YI dYf]YbW'gk ]h\`a i g]W]b`Z]`a "

# 5ggYgga Ybh

### 5ggYgga YbhHUg\_g

5ggYgga Ybh'hUg_	K Y][ \h	8iY'8UhY	Gh XYbh@YUfb]b[ Ci hWca Ygʻ5ggYggYX
: ]`a !GWcf]b[ '5Wfj ]hmUbX 9ggUm	) \$1	Bch5dd`]WUV`Y	% <u>*</u> &ž(
FYZYW¶jY'>cifbU`	&) ı	Bch5dd`]WUV`Y	%ž&ž(
7`Ugg'HYgh	&) ı	Bch5dd`]WUV`Y	%₹ ž(

### 5ggYgga Ybh'8YHJ]`g

5ggYgga Ybh%: ]a !GWcf]b[5Wf]j ]lmUbX 9ggUm

GhUfhXUhY. Bch5dd`]WUV`Y

8 YHU]`g. `Hk c`g\cfhfk!' `a ]bi HYŁZ]`a `g\W`bYg`hc`VY`g\\cfYXž'k ]h\`U\\\cappa a i g]\\\``\W\c]\W`g`UbX`fUh]cbU`Y`Zcf`d`U\\\a YbhcZa i g]\\\ ]h\]b`h\Y`g\\bYg\]b`fY`Uh]cb`hc`Z]`a `a i g]\\\\\Ycfm'\%) \$\$`k cfXgk f]h\Yb`ZYYXVU\\\_`dfcj ]XYX`Vm`Y\\fi ]U`A ccX`Y

### 5XX]h]cbU`XYhJ]`g.

•: ]`a !GWcf]b[ '5Wf] ]mnUbX 5bU`mf]WU``BchYg`f9ggUmŁž') \$1

H\]g UggYgga Ybh]hYa ]g ]b k c dUfhg.

DUfn%!: ]a!GWcf]b['5Wf]i]mm'Mci k]``VY'Ug\_YX'hc'dfcj]XY'aig]Whc'UWWcadUbmikc'g\cfhgWfbYg'hU\_YbZca'U'gY'YWfYX'Zja'cf'Zjag"H\Y'aig]Wdfcj]XYX'aUmWcbg]ghcZY]h\YffUEcf][]bU`aig]WwcadcgYXYgdYW]U``mZcf'h\Y'gWfbYg/cf'fVEYI]gh]b['fYWcfX]b[g'cZaig]Wh\Uhimci 'YX]hUbX'UXX'hc'h\Y'gWfbYg"'GYjYfU`gWfbYg'Zfca'U'gY'YWfYX'Zja'fcf'ZjagEk]``VY'aUXY'UjUj'UV`Y'hc'ghiXYbhg'j]U'AccX`Y"'9UW\gWfbYik]``VYUddfcl]aUhY`mhkc'f&Ehc'h\fYY'flEa]bihYg']b'XifUhjcb"'7cadfY\Ybg]jY']bghfiWfjcbg'cb'\ck'hc'Wcad`YhYh\]g'UgdYWficZh\Y'Ugg][baYbhk]``VY'[]jYb'rc'ghiXYbhg'Xif]b['gYaYghYf"DUfn&-5bU`mf]WU``BchYg#9ggUm'Mci'aighU`gc'Wcad`YhY'Ub'UbU`mf]WU``YggUmfWU"'%)\$\$'kcfXgE'h\Uh

† ghjZjyg·mci f·Wkc]W/rcZa i g]W]b·h\Y·gY`YWfX`gW/bYg·UbX`Yb[U[Yg·k]h\rh\Y·W ffYbh`]hYfUh fYrcb·h\Y gi VYWf'H\]g;]g·bchUʻa UthYficZa YfY`mYl dfYgg]b[ ˈmci fˈdYfgcbUʻcd]b]cb. ˈmci ˈa i ghʾ↑ ghjZmmci fʻWkc]W/rcZa i g]WZcfʻYUWk ʻWca dʻYhYXʻgW/bYʻVmdfcj ]X]b[ 'Yj ]XYbW/rcZmci fʻi bXYfgtUbX]b[ 'cZh\YgY'WcbW/dhg·UbX h\cgY`X]gW/ggYX`]b·h\Y·'YWh fyg·UbX`h\fci [\ci hh\Y`Wci fgY"'Gh XYbhgʻg\ci `X`a U\_Y gdYW]Z]WfYZ/fYbW/rc `Uh`YUghgca Y`cZh\Y`]hYfUh fY`]bWi XYX`cb·h\Y'Gi [[YghYX`F YUX]b[ '@]ghz˙UbX`h\i g dfcj ]XY`U`WcbhYl hfVch\`]ghcf]WU`UbX`gcW]U`t-Zcfʻh\Y`fYUgcbg`VY\]bX`mci fʻWkc]W/rcZa i g]WZcf`YUWk`Z]`a Yl W/fdh'

5ggYgga Ybh& FYZYWhjj Y >ci fbU`

GhUfhXUhY. Bch5dd`]WUV`Y

8 YHU]`g. F YZYWIj Y`>ci fbU``cb`lk c`gYhUWIj ]ljYg`f(\$\$!) \$\$`k cfXg`YUW\Ł"K f]lhYb`ZYYXVUW\_`dfcj ]XYX`Vm`YWIi fYf`k ]lh`]b`cbY`k YY\_`cZWca d`Yhjcb`cZYUW\`UWIj ]lm'i

5XX]h]cbU`XYhU]`q.

 $HY': [a A i g]W>ci fbU``Wca df]gYg`U`hchU``cZ&) i `cZh\Y`hchU``a Uf_`Zcf`h\]g`Wci fgY"$ 

#i]g'VUgYX'cb'h\Y'Wca d'Yh]cb'cZhk c'gYhUWfj ]h]Yg"'9UW\'UWfj ]hm]g'k Y][\hYX']b'h\Y'Zc``ck ]b['a UbbYf.'%\!>ci fbU``5Wfj ]hm%1'%\| /Xi Y'("\$\$da ž'Hi YgXUm&)': YVfi UfmfK YY\_'&\!/ &\!: ]a 'A i g]W5Wfj ]hm&1'%\| /Xi Y'("\$\$da ž'Hi YgXUm%\$'A UfW\'fK YY\_'(\!"

#bglfi Wfjcbg'Zcf'qi Va ]qq]cb'cZh\YqY']hYa q'k ]``'VY'[]j Yb'j ]U'A ccX`Y'UbX'Xi f]b['h\Y'`YWfi fY'qYf]Yq"

Hi fb]hb gYhb[. H\]g ]g bchU Hi fb]hb Ugg][ ba Ybh

5ggYgga Ybh' . 7`Ugg HYgh

GhUfhXUhY. Bch5dd`lWUV`Y

8YHU]`q. '7 `Ugg'HYghF Ygi `h'dfcj ]XYX'Vm`YWi fYf'k ]h\]b cbY'k YY\_cZWca d`Yh]cb cZhYgh

5XX]h]cbU`XYhU]`g.

5qqYqqa Ybh' .: ]`a 'A i q]W< ]qhcfmHYqh

• 'H\]g = 17 `Ugg 'HYgh]g k cfh\ &) | 'cZh\Y hchJ`a Uf\_ Zcf'h\Y Wci fgY"

H\Y`hYghik]```VY`VUgYX`cb`a UhYf]U`g`HU\_Yb`Zfca`@YWh fYg`UbX`Hi hcf]U`g`\Y`X`Xi f]b[`K YY\_g`%hc`\*žUbX`a Um U`gc`]bWi XY`fYZYfYbWY`hc`]bZcfa Uh]cb`XYf]j YX`Zfca `gY`YWhYX`F YUX]b[g`X]ghf]Vi hYX`]b`K YY\_g`%l\*"
H\Y`hYghik]```VY`WcbXi WhYX`]b`h\Y`Hi hcf]U``h]a Y`Uh'&&"\$\$da `cb`\$%'5df]``fK YY\_`+Łž'UbX`k]```VY Uddfcl]a UhY`m`\*\$`a]bi hYg`]b`Xi fUh]cb"

Hi fb]hb qYhhb[. H\]q ]q bchU Hi fb]hb Uqq][ ba Ybh

# 5 https://bxubwww.Fyei]fYaYbhg

Ghi XYbhgʻUfYʻghfcb[`miYbWci fU[YX'hcʻUhhYbX'U```WUggYgʻUbX'fYj ]Yk '`YWhi fY`fYWcfX]b[g"

# 7ci fgY'GWXYXi `Y

### J]Yk 'WUgg'ha YhUV'Y

# H]a YtUV`Y

8UhY	HmdY	7 cbhYbh
K YY_"%"%+": YVfi Ufm!"&% : YVfi Ufm	@YWnifY	@YWnifY.`K YXbYgXUmž%-': YVfi Ufmž'Uh-"\$\$da hc`%%"\$\$Uaž]b`K YVghYf'; %+"
		+bHcXi Whcb'hc'h\Y'7 ci fgY/\]ghcf]WU`WcbhYI hg'Zcf a i g]WUbX'j ]gi U``]a U[ Yg/UXj YbhcZZ]`a /i gY'cZ a i g]W]b'YUf'm'g]'YbH'Z]`a /Z]`a 'a i g]WUbX F ca Ubh]W]ga ža i g]WUbX'W]W\Å"'A i g]W]b'bcb! < c``mk ccX'g]'Ybh'Z]`a g"
		8 ]gWi gg 5 Wij ]hmi%"
		D`YUgY`bchY`Hi hcf]U`g`VY[]b`]b`K YY_`&"
K YY_^&.^&( *: YVfi Ufm!^&, : YVfi Ufm	@YWi fY	@YWhifY.KYXbYgXUmž&*:YVfiUfm Uhi-"\$\$Uahc '%"\$\$Uaž]bKYVghYf;%+"
		5XjYbhcZgcibX'cb'Zj`a.'gmbW\fcb]gUhjcb'cZaig]WUbX']aU[Y/aig]WUbX'X]U`c["
		% &-!%'&'!'k\YfY']g'h\Y'aig]W&'DfUWf]WU`]h]Yg']b gcibX'fYWcfX]b[ž'UbX'a]l]b['cZX]U'c[iYž'aig]W gcibX'YZZYWfg"
	Hi hcf]U`	Hi hcf]U`. K YXbYgXUmž&* : YVfi Ufm 'Uh'\&\"\$\$da hc &"\$\$da ž']b K YVghYf'; %+"
		5bU`mh]WU``UWhjj ]hm"
		H\Y`f7`Ugg]WU`fi< c``mk ccX`Zj`a `gWcfY`—`A UI `GhY]bYf UbX`9f]W\`? cfb[ c`X`fDUfh'%L
K YY_" ."&"A UfVX"!"* A UfVX	@YWi fY	@YWhifY.`K YXbYgXUmž\$(`A UfWX.`Uhi-"\$\$Ua hc`%%"\$\$Ua ž`]b`K YVghYf'; %+"
		H\Y`f7`Ugg]WU`fi <c``mk.ccx`zj`a `ghy]byf<br="" `gwcfy`—`a="" ui="">UbX`9f]W\`?cfb[c`X`fDUfh&amp;Ł</c``mk.ccx`zj`a>
		: ]`a 'Bc]f/XYj Y`cda Ybhgʻ]bʻa i g]WU```Ub[i U[Y'UbX ]bghfi a YbhUh]cbʻZcfʻZ]`a 'a i g]W
	Hi hcf]U`	Hi hcf]U`.`K YXbYgXUmž\$(`A UfWX.`Uh'%&"\$\$da hc &"\$\$da ž`]b`K YVghYf`; %+"

		GWcf]b[ 'U'gWrbY.'X]gW gg]cb'cZ5Wfjj ]lmi&'UbX'\ck lc'Wca d'YhY']h'
		: ]`a 'A i g]WH\YcfmDUfh'% '5Xcfbc'UbX'9]g`Yf/ UbU`mg]b[ 'Z]`a 'a i g]WUbX'Ya ch]cb.']b!WUgg'UbU`mg]g cZgY`YWYX'gWYbYg"
K YY_'(.'-'A UfVX'!'% A UfVX	@YWhifY	@YWhifY."K YXbYgXUmž'%%A UfW."Uh-"\$\$Ua hc'%%"\$\$Uaž]b'K YVghYf'; %+"
		5`HYfbUh]j Yg'hc'h\Y'f7`Ugg]WU`fi: ]`a 'gWcfY'!'Unn'

		: ]`a a i g]WUbXifa ]b]a U`]ga filith.Yi]bZi YbWY cZWca dcgYfgigi W. UgiD\]`]di; `Uggž'A ]W.UY`Bma Ub UbXich.Yfg"
	Hi hcf]U`	Hi hcf]U`. K YXbYgXUnž'\$%'5df]`. Uh'\%"\$\$da 'hc &"\$\$da ž']b K YVghYf'; %+"
		#5!7`Ugg`HYghfcb`U```a UHYf]U``X]gWiggYX`]b`K YY_g %!*\/*\$`a]bi HYg"
K_YY_`; . `* '5df]``! '%\$'5df]`	@YWn fY	@YWhifY.`K YXbYgXUmž\$, `5df]`.`Uhi-"\$\$Ua hc`%%"\$\$Ua ž`]b`K YVghYf'; %+"
		Bcb! <c``mkccx`uddfcuvxyg`hc`zj`a`wcadcg]hjcb"< td=""></c``mkccx`uddfcuvxyg`hc`zj`a`wcadcg]hjcb"<>
		H\Y`]bZi YbWY`cZ8Ubbm'9`Za Ubž' <ubg`n]a a="" yfž'ubx<br="">ch\Yfg"</ubg`n]a>
	Hi hcf]U`	Hi hcf]U`.`K YXbYgXUmž\$, '5df]`.`Uhi‰"\$\$da ihc &"\$\$da ž]b`K YVghYf`; %+"
		5bU`mh]WU``UWnjj]mmUbX`[fcid'kcf_"
K_YY_''%' '5df]`'!'%+ 5df]`	@YWi fY	@YWhifY.ik YXbYgXUmž%) i5df]`.iUh-"\$\$Ua hci%%"\$\$Ua ži]bik YVghYfi; %+"
		FYWYbhXYjY`cdaYbhg`UbX`bYk`kUmg`cZkcf_]b[ k]h\aig]WUbX`Z`a"
	Hi lcf]U`	Hi hcf]U`.`K YXbYgXUmž'%) '5df]`.`Uhi%&"\$\$da ihc &"\$\$da ž]b`K YVghYf'; %+"
		5bU`mh]WU``UWh]j]hm`UbX`[fcid'kcf_"
K_YY_`%\$.`&\$`5df]`'!`&( 5df]`	@YWnifY	@YWhifY. KYXbYgXUmž&&:5df]`
		BC'@97HIF9'H< €'K 99?"
	Hi hcf]U`	Hi hcf]U`. K YXbYgXUmž&&'5df]`. 'Uh'%&"\$\$da 'hc &"\$\$da ž']b K YVghYf'; %+"
		: i ft\Yf`XYj Y`cda YbhgʻUbX`ZjbU``Wca a Ybhg"

# FYgci fW/g

DfYgWf]VYX F Ygci fWYg

FYWca a YbXYX FYgci fWfg

 $5 \text{ il gYZ} \text{ ``Vcc_'cb'h}Y' \] ghcfmcZZ a 'a i g]W]g.$ 

7 cc\_ž'A Yfj mb"'5'< ]ghcfmicZ: ]`a 'A i g]W'7 Ua Vf]X[Y.'7 Ua Vf]X[Y'I b]j Yfg]hmiDfYggž'&\$\$, ž'\omega+, %") ( &\$-\#) Q .

#### Gi [[YghYXFYUX]b['@]gh

5bXYfgcbž; "Aig]WZcfg]YbhZagž% - (!% &- . U [i]XY/K Ug\]b[hcb.@]VfUfmcZ7cb[fYggž%,,"

6fcd\mžD":ffxX"\z":7]bYgcb]W`YIdYf]YbW]b[:h\Y`gcibXhfUW\_/Bcfh\FmXYz\B"G"K".:5ighfu`]ub::]`a HY`Yj]q]cb`UbX`FUX]c`GW\cc`z`&\\$\%"

6fi WYž; "'6YfbUfX'<Yffa Ubb. 'UbX'bUffUhj Y/fbbb'5fVcfžA [W] [ Ub. I A =F YqYUfWX DfYqqž'%, ) "

6i \`Yfz`>": `]bbz̈7"'UbX'BYi a YmYfz̈8"'flYXg"ŁA i g]WUbX'WJbYa U/<Ubcj Yfz̈B"<"!'@cbXcb.'l b]j Yfg]lm DfYgg'cZBYk '9b[`UbXz̈&\$\$\$"

6ifhž; "žH\Y 5fhcZ: ] a Aig]W 6cghcbžBcfh\YUghYfb I b]j Yfg]mDfYggž% - ("

7 Uffc``žB"'H\Ycf]n]b['h\Y'a cj]b[']a U[Y/7 Ua Vf]X[Y. 7 Ua Vf]X[Y'I b]j Yfq]mnDfYgqž'% - \*ž'\&+- \%'('\$\#) Q

7c\UbžG"'fYX"L"'<c``mk ccX'a i g]WU`gž'h\Y`Z]`a 'fYUXYf/BYk 'Mcf\_. 'F ci hYX[Yž'&\$\$&"

7 cbf]W\Z=UbX`H]bW\_bY``Z'9`flYXg"L": ]`a 'g'a i g]WU``a ca Ybhg/9X]bVi f[\.'9X]bVi f[\'I b]j Yfg]hmDfYggZ &\$\$\*"

7 cc\_žB]W.c`Ug"5bU`mg]b[aig]WU`ai`h]!a YX]U/ClZcfX: ClZcfX:lb]j Yfg]mmDfYgg:&\$\$\$ž@`+, %#%\*( '6Q

7 c\Ybž·5"'>"'f&\$%\$Ł"'A i g]WUg'U'gci fW'cZYa chcb']b'Zja "'±b'D"'B"'>i g`]b'/ '>"'5"'G`cVcXU

< ]`a UbžF"'I bgYm)b[ 'gWcfYg/+bX]UbU'I Dž'&\$\$) ž'©+- %"(' \$&(#( Q

? U`]bU\_ž? "`GYth`]b[ 'th\Y`gWcfY.`a i g]WUbX`th\Y`WUgg]WU``< c``mk ccX`Z]`a /A UX]gcb.`I b]j Yfg]tmicZ K ]gWcbg]b`DfYggž% - &ž'(G'+, %") ( &\$-+' #&Q

? Uf]bž: "'UbX'K f][\hžF"žCb'h\Y'HfUW\_.'5'; i]XY'hc'7cbhYa dcfUfm: ]`a 'GWcf]b[/BYk 'Mcf\_, 'F ci hYX[Yž&\$\$("

? UggUV]Ubž'5"'< YUf]b[']XYbf]Z]WUf]cbg']b'WcbfYa dcfUfm'< c``mk ccX'Z]`a 'a i g]W'BYk 'Mcf\_. F ci hYX[Yž'&\$\$%Z'@+, %") ( &#%Q

 $A \ Uf\_g\check{z}`A \ "`A \ "\check{z}`A \ i \ g]WUbX`th`Y`g]`YbtiZ]`a \ `.`WcbtYI \ tg`UbX`WUgY`gti \ X]Yg\check{z}`\% \ -) !\% \ \&(\ /\ BYk \ `Mcf\_!\ C \ I \ ZcfX`I \ b]j \ Yfg]tmDfYgg\check{z}`% \ - +"$ 

A YfUž'A "'UbX'6i fbUbXž'8"'fYXg"Ł"'9i fcdYUb': ]`a 'A i g]W'5`XYfg\ch'5g\[ UlYž'&\$\$\*"

### Gi Va |gg|cb cZ5ggYgga YbhHUg\_g

### Gi Va ]gg]cb cZ5ggYgga YbhHUg\_g

Hi fb]h]b Gi Va ]gg]cb

Image: Ybwb: bh/f'u'dfcv'ya k \yb'uhh/a dh/b[ 'hc'gi va ]hmci f'ugg][ ba Ybhh\fci [ \ 'Hi fb]h/bž'd'YugY

HY'Yd\cbY'9| h/fbu''Gi ddcfhcb'-', ) '' ' ' %cf'Ya U] 'h\Ya 'cb'Y! h/fbu'h/hgi ddcfh4 i bgk "YXi "Ui "'Gi ddcfh
\ci fg'UfY', .\$\$Ua '-'%\$.\$\$da 'cb'k YY\_XUmg'UbX'-.\$\$Ua '-') .\$\$da 'cb'k YY\_YbXg'fl \*) 'XUmg'U'mYUfŁ" Image: UfY'i bUV'Y'hc'gi va ]hmci f'Ugg][ ba YbhXi Y'hc'U'ZJi 'hk ]h\ 'Hi fb]h/b'mci 'a UmUdd'mZcf'Ub'Y! h/bg]cbž'Vi hmci
a i ghfYhJ]b'mci f'h/W\_Yhbi a VYf'Zfca '9! h/fbU''Gi ddcfhfU'cb[ 'k ]h\ 'Ubmch\Yf'YY] UbhXcW a YbhgŁ'hc
]bWi XY'Ug'Yj ]XYbW' 'hc'gi ddcfhmci f'Y! h/bg]cb'Udd']WJh/cb" Image: Ya U]''9! h/fbU''Gi ddcfhmci 'k ]'`
Ui hca Uh/WJ'mfYW'] Y'U'h/W\_Yhbi a VYfž'Vi h]Zmci 'hY'Yd\cbY'mci 'k ]'`'bYYX'hc'gdYW/ZWJ'`mUg\_'Zcf'cbY''
Hi fb]h/b'U'gc'dfcj ]XYg'i dXUh/g'cb'h\Y]f'gmghYa 'ghUh' g'cb'Hk ]hYf"

; YbYfU``mž'UggYgga YbhiHug\_g'a i ghVY'gi Va ]hhYX'Y`YVWfcb]\W)``mj ]U'Y]h\Yf'Hi fb]hjb'cf'U'A ccX`Y Ugg][ ba Ybh'' =b']bgHJb\W'g'k \YfY'h\]g']g'bchdcgg]V`Yž']hk ]``'VY'gHJhYX'cb'mci f'\\circ i fgY'g'A ccX`Y'g]hY'k ]h\ U`hYfbUhj Y'gi Va ]gg]cb'XYHJ]`g''

cfi]bZcfa Uh]cbicbi\ckihcigi Va ]hUgg][ ba Ybhgicbi]bYij ]UiA ccXiY.i\hdg.#gh XYbh'i bgk "YXi "Ui #\ck! qi Va ]hUgq][ ba Ybha ccXiY

### 5 WUXYa ]W<cbYghmUbX D`U[ ]Uf]ga

D`U[]Uf]ga i]gii g]b[ih\Yik cfXgicfi]XYUgicZch\YfgiUbXidfYgYbh]b[ih\Ya iUgimci fick b"i±i\WbihU\_Yia Ubm Zcfa gžZfca iXYi]VYfUhYiW\YUh]b[ihciU\W]XYbhU`m\Wcdm]b[iZfca iUigci f\Wik ]h\ci hiU\w\_bck iYX[Ya Ybh'

IBGK [fcidg'd'U[]Uf]ga ]bhc'h\Y'Zc``ck]b[ WUhY[cf]Yg.

7 cdm]b[.'i g]b['h\Y'gUa Y'cf'j Yfmg]a ]`Uf'k cfXg'hc'h\Y'cf][]bU`hYl h'cf']XYU'k ]h\ci h'UW\_bck `YX[]b['h\Y gci fW'cf'i g]b['ei chUh]cb'a Uf\_g"'H\]g'U`gc'Udd`]Yg'hc']a U[Ygž'Ufh'UbX'XYg][b'dfcYWhgž'Ug'k Y``'Ug dfYgYbhUh]cbg'k \YfY'gca YcbY'dfYgYbhg'Ubch\Yf'g']XYUg'cf'k cfXg'k ]h\ci h'WfYX]h'

⇒ Uddfcdf]UhY 'dUfUd\fUg]b[. '7\Ub[]b['U'ZYk'k cfXg'UbX'd\fUgYg'k\]Y 'a cghmfYhU]b]b['h\Y'cf][]bU`ghi Wh fY 'UbX#cf'dfc[fYgg]cb'cZ]XYUg'cZh\Y'cf][]bU`žUbX']bZcfa Uh]cb'k]h\ci hUW\_bck`YX[Ya Ybh'H\]g'U`gc Udd`]Yg']b'dfYgYbhUh]cbg'k\YfY'gca YcbY'dUfUd\fUgYg'Ubch\Yf'g']XYUg'cf'k cfXg'k]h\ci h'WfYX]h'UbX'hc d]YW]b['hc[Yh\Yf'ei chYg'UbX'dUfUd\fUgYg']bhc'U'bYk'k\c`Yžk]h\ci h'Uddfcdf]UhY'fYZYfYbW]b['"

7 c``i g]cb.'k cf\_jb['k]h\ch\Yfg'Vi hdUgg]b['cZZh\Y'k cf\_'Ug'U'dYfgcb'g']bX]j ]Xi U``k cf\_"'7 c``i g]cb'U`gc ]bWi XYg'dfcj ]X]b['mci f'k cf\_'hc'Ubch\Yf'ghi XYbhVYZcfY'h\Y'Xi Y'XUhYžcf'Zcf'h\Y'di fdcgY'cZh\Ya d`U[]Uf]g]b['UhiUbmh]a Yž'dUm]b['Ubch\Yf'dYfgcb'hc'dYfZcfa 'Ub'UWUXYa ]WhUg\_ž'ghYU']b['cf'UWei]f]b[ Ubch\Yf'dYfgcb'g'UWUXYa ]Wk cf\_'UbX'Wcdm]b[']hz'cZYf]b['hc'Wca d'YhY'Ubch\Yf'dYfgcb'g'k cf\_'cf'gYY\_]b[ dUma YbhZcf'Wca d'Yh]b['UWUXYa ]Wk cf\_"

±bUddfcdf]UhY`W]hUh]cb.`7]h]b[`gcifWrg`k\]W\`\UjY`bchVYYb`fYUXžk]h\cihUW\_bck`YX[]b[`h\Y`´gYWcbXUfm´gcifWrZfca`k\]W\`\_bck`YX[Y`cZh\Ya`\Ug`VYYb`cVhU]bYX"

8 i d`]\WUh]cb`ffgY`Zd`U[]\Uf]ga "Ł gi Va]\h]b[`mci f`ck b`k cf\_ž]b`k \c`Y`cf`]b`dUfhžk \YfY`]h\Ug`dfYj]ci g`m VYYb`dfYdUfYX`cf`gi Va]\hYX`Zcf`Ubch\Yf`UggYgga Ybhcf\Wci fgY`UhI BGK `cf`Ubch\Yf`i b]j Yfg]\m'

7 cffYWnfYZYfYbWlb[ 'dfUWnWyg.

• DUfUd\fug]b[ z'gi a a Uf]q]b[ z'YggUmk f]hb[ 'UbX'ha Y'a UbU[ Ya Ybh

#### 5 WUXYa ]W = b Zcfa Uh cb.

: cf`YggYbhJU``gh XYbh`]bZcfa UhJcb`fY`UhJb[ 'hc.

- fYei Yghg Zcf Yl hYbg]cb/
- `UhY`gi Va ]gg]cbg`[i ]XY`]bYg/
- fYj ]Yk 'cZa Uf\_g/
- I BGK '< YU`h\ 'UbX'GUZYhm'dc`]W[Yg/
- YI Ua ]bUhcb dfcWXi fYg/
- gdYWJU``Wcbg]XYfUHjcb`]b`H\Y`Yj YbhcZ]``bYgg`cf`a ]gUXj Ybhi fY/
- gh XYbhYei ]mUbX X]gUV]`]m/
- UbX'ch\Yf'YggYbhJU`'UWUXYa ]W]bZcfa UhJcbž'gYY

\hdg.#k k k "Uffg"i bgk "YXi "Ui #W ffYbhgh XYbhg#UWJXYa ]W]bZcfa Uf]cb#dfchcWc`g![i]XY`]bYg#

.

### a U[Y'7fYX]h

Gc`c'DYfZcfa UbWY'A U\_]b['&\$%

#### 7F = 7CG

7F = 7CG Dfcj ]XYf 7cXY. \$\$\$-,;