

5 Zf]_Ug'; Y\Y]a h]ddg. '8]Y 'g]W\YfghYb FY]gYn]Y`Y '&\$&) 'YbhXYW_Yb'

 $9bhXYW_YbG]Yg]WXYfYFY]gYn]Y`Y]b`5Zf]_U`ZØf`&$\&). \\ Dc`]h]gWXYGhUV]`]hAhžVYY]bXfiW_YbXYBUhifibX'_i`hifY``YJ]Y`ZU`h'kUfhYb'UiZG]Y"$



A UffU_YgW ž'A Ufc__c'!8]Y'G]W\Yf\Y]hg`U[Y']b'5Zf]_U'YfZfYi h
g]W\ni bY\a YbX'dcg]h]j Yf'6Yk Yfhi b[Ybž'k Ug'j cf'U``Ya 'X]Y
FY]gY`i gh'Ui Z'XYb'?cbh]bYbh'ghY][Yfh"'8]Y'F]g]_c_UfhY'j cb
GUZYhi fY'i bX'F]g_`]bY'nY][hž'XUgg']b'++'@\abXYfb'k Y`hk Y]h'X]Y
G]W\Yf\Y]hgf]g]_Yb'[Ygh]Y[Yb'g]bXž'YXcW\'[]Vh'Yg'Ui W\'Y]b][Y
@\abXYf']b'5Zf]_Už'X]Y'U`g'g]W\Yf'[Y`hYb'i bX'FY]gYbXYb'Y]bY
`c\bYbgk YfhY'DYfgdY_h]j Y'V]YhYb"'Gc'VYf]W\hYh'h!cb`]bY"XYž'XUgg
@\abXYf'k]Y'A Ufc__cž'BUa]V]Už'6chgk UbU'i bX'G]a VUVk Y'g]W\
dcg]h]j 'UV\YVYb"

A Ufc__c'VY]gd]Y`gk Y]gY'k]fX'U`g'dc`]h]gW\'ghUV]`Yg'@UbX'a]h'Y]bYf k UW\gYbXYb'hci f]gh]gW\Yb' \pm 2fUghfi _hi f'VYgW\f]YVYb'''Ni 'XYb <][\`][\hg'[Y\\OfYb'XUg'VYY]bXfi W_YbXY'5h`Ug[YV]f[Y'i bX'X]Y

YV\UZhYb'Gci _g'j cb'A UffU_YgW\"BUa]V]U'[]`h'U`g'Y]bYg'XYf
g]W\YfghYb'@\bXYf'XYg'?cbh]bYbhg'i bX']gh'VYgcbXYfg'VY]
GY`VghZU\fYfb'VY`]YVh"'8]Y'`UbXgW\UZh`]W\Y'J]Y`ZU`hž']bgVYgcbXYfY
XYf'9hcg\U!BUh]cbU`dUf_'i bX'X]Y'a U'Ygh\h]gW\Yb'GUbXXØbYb'j cb
Gcggi gj `Y]ž'n]Y\h'j]Y`Y'5VYbhYi fYf'Ub"'6chgk UbU']gh'Y]b'YW\hYf
; Y\Y]a h]dd'ZØf'GUZUf]!9bh\i g]UghYbž'VY_Ubbh'ZØf'XUg'C_Uj Ub[c!
8 Y`hU'i bX'X]Y'?U`U\Uf]!K ØghYž'k \hata\fYbX'G]a VUVk Y'Y]b
hci f]gh]gW\Yg'7ca YVUW_'ZY]Yfh'i bX'i bhYf'UbXYfYa 'X]Y
VYY]bXfi W_YbXYb'J]Whcf]UZ\hata\cancerrelation Y'gck]Y'XYb'<k Ub[Y!BUh]cbU`dUf_
V]YhYh"

8]Y g]W YfghYb F Y]gYn]Y Y]b 5 Zf]_U

$$\begin{split} &5Zf]_U`V]YhYh`nU``fY]WXY`@AbXYf`a]h`dc`]h]gWXYf`GhUV]`]hAh`i bX`[i h Ybhk]W_Y`hYf`hci f]gh]gWXYf`\DZfUghfi _hi f"`@Ui h`XYa ;`cVU``DYUWY \dispXYI `fl D\disp_Ubb `X]Y`G]WXYf\Y]h`XYf`@AbXYf`Ub\UbX`b]YXf][Yf Di b_hnU\`Yb`VYi fhY]`h`k YfXYb"`9]b`cZh`j YfnYffhYg`G]WXYf\Y]hgV]`X k]fX`Xi fWX`BUWXf]WXhYb`ØVYf`dc`]h]gWXY`I bfi \Yb`[YdfA[h\zetacVk c\` \ØVYf`) $`@AbXYf`Ui Z`XYa `?cbh]bYbh`g]WXYfYfY`FY]gYVYX]b[i b[YbUi Zk Y]gYb"`gYWYf'D\xetacYk c\` \dispXYf`Ui Z`XYa `?cbh]bYbh`g]WXYfYfY`FY]gYVYX]b[i b[YbUi Zk Y]gYb"`gYWYf'ZØf`&$&). \end{split}$$

D`Uhn	@Ub X	6Ya Yf_i b[Yb
%	Hi bYg]Yb	A]hhY`aYYf_ØghYž
		\]ghcf]gWXY'GhÀhhYb
&	5b[c`U	: cfhgWlf]hhY^]b
		dc`]h]gW\Yf'GhUV]`]hÀh
	@JVYf]U	JYfVYggYfhY
		G]WXYfY]hgU[Yž
		YXcW\`Jcfg]W\h`]b
		A cbfcj]U
(G]YffU [*] @YcbY	K i bXYfgVX ÒbY
		Ghfàbxyž?i`hif
)	HUbgUb]U	GYfYb[Yh]ž
		?]`]a UbXgWXUfc
*	BUa]V]U	l b∨YfØ\fhY BUhi fž
		[Yf]b[Y [.] ?f]a]bU`]hÀh
+	GUa V]U	G]WXYfYg`FY]gY`UbX

		a]hˈJ]_hcf]UZÀ``Yb
ı	; \UbU	@YVYbX][Y'?i`hifž
		g]WXYfY' <uidhghuxh< td=""></uidhghuxh<>
-	6chgk UbU	$< c \ Y \ d \ c \]h]gWX Y$
		GhUV]`]hÀhž
		VYY]bXfi W_YbXY
		BUh]cbU`dUf_g
%\$	A Ui f]h]i g	G]WXYfghYg [.] @UbX
		5 Zf]_Ugʻd Y fZY_hʻZØf
		I f`Ui VYf

K]Y'X]Y'[YbUbbhYb'@ÀbXYf'nY][Ybž']gh'5Zf]_U'Y]b'?cbh]bYbh'j c``Yf 5VYbhYi Yfž'VYY]bXfi W_YbXYf'BUhi f'i bX'_i `hi fY``Yf'J]Y`ZU`h''8]Y dcg]h]j Yb'9bhk]W_`i b[Yb']b'j]Y`Yb'@ÀbXYfb'V]YhYb'FY]gYbXYb'X]Y A Ò[`]WX_Y]hž'i bj Yf[Ygg`]WXY'9f`YVb]ggY'ni 'gUa a Y`bž'c\bY'g]WX ØVYf'G]WXYf\Y]hgVYXYb_Yb'ni 'j]Y`Y'; YXUb_Yb'ni 'a UWXYb'' \div Zcfa]YfhY'i bX'j cfVYfY]hYhY'FY]gYbXY'_ÒbbYb'X]Y'GWXÒb\Y]h 5Zf]_Ug'[Yb]Y»Yb'i bX'XUVY]'X]Y'ZfYi bX`]WXYb'9]bk c\bYf'i bX'X]Y fY]WXY'?i `hi f'Yf'YVYb''

8 Y hU]`g	
Cfh	A UffU_YgW\ž'A Ufcc
EiY``Yb	k k k "h!cb`]bY"XY
	∙ k k k "gYW/f]hmgnYbY"XY

6Ygi WXYb G]Y i bg Ui Z Y]bY!fY]gY "XY