

; GA!Gi ddcfh'i `"8cVfY[c DUghYfnU'%\$&#) ž' %!(%* ?fU_Œk a cV]`Y Ž(, *\$, %\$+()) žB=D', %''), *\$- F9; CB. %, %\$, %''(k k k "[ga!gi ddcfh"bYh

Ga Ufh 7`ld HYghDclbhi &"\$ HD 5fl cb WUV`Y





Ga Ufh'HYghDc]bh'j &"\$"'7ca dUh]V`Y`k]h\`? %g'UbX`ch\Yf`a cXY`g'h\Uh'UfY`gi ddcfhYX`Vm`Ga Ufh'HYghDc]bh'dfYdUfY`Z bVM]cb'cZ Ga UfhA chc"'H\]g']g'YggYbh]U'`h\]b['hc'i b`cW_'5f[cb'd\cbYg.'? %gž'?' ž'J %%\$\$ž'J'|| ž'J'|| 7]b[i `Uf'fBcfh\'5a Yf]WUŁŽ'J*a Ul|ž:ca U`A+\$&]; 'UbX`@H9&SFCA('d\cbYg.'@-ž'@+&ž'K) %\$ž'J' fY"

 $\label{eq:hamiltonian} $$H\Y'WUV'Y'WcbhU]bg'hk\c'HYghDc]bh'bYYX'Yg'UbX'U'6UhhYfm'<cc_$$$

MY``ck '! 'HYghDc]bh'5 fDf]a UfmŁ

6`UW_'!'HYghDc]bh'6'flGYWcbXUfmŁ

FYX"!"6UhhYfm"<cc_

 $: cf'WcffYWh'Ga~Ufh'HYghDc]bh'j~"\&"\$'WUV'Y'Z\!I~bWh]cbg'h\Y'bYl~h'cfXYf'\Ug'hc'VY'Zc``ck~YX.$

%" DYfZcfa "DfYdUfY Ga Ufh HYghDc]bhî "

 $\& \hbox{``K \ \ \ 'Yb'Ga \ UfhA \ chc'dfca \ dhg'hc'X]gUggYa \ V'Y'h\ Y'\ \ \ UbXgYhz'd'YUgY'dYfZcfa \ 'h\ Y'Zc``ck \]b[\ .$

 $8\,]gWcbbYWh'h\Y'\UbXgYh'UbX'X]ga\Ubh'Y']h$

D`YUgY`YbgifY`h\Uh`@78`]g`X]gWcbbYWhYX`Zfca`h\Y`VcUfX***

7cbbYVWGa UfhHYghDc]bh'WWV'Y'j "&"\$'hc'h\Y'dcfh'F>() 'cb'Ga Ufh 7']d

7cbbYWhXUhU`WWV`Y`hc`h\Y`d\cbY

7cbbYWhYUhhYfm\cc_hch\Y'dcg]hjjY'flLEVUhhYfmWcbhUWhcbD76

 $DfYgg^*C?^*]b^*Ga^*UfhA^*chc^*^*H\Y^*\UbXgYh^*g\ci^*X^*VY^*XYhYVMYX^*k]h\Y^*Cch^*j^*Yfg]cb^*\$"\$\$"$

' "'I b`cW_'dfcWfXi fY'Wcbh]bi Yg"

("'8]gWcbbYWh'HD'bYYX`Y'k\Yb¯Ga UfhA chc']bZcfa g'hc'Xc'gc"

D`YUgY`Zc``ck 'h\]g'cfXYf`ghf]Whim'`8c'bchi gY`dck Yf`Zfca 'h\Y`VUhhYfm'`I gY`VUhhYfm'\cc_`UbX`Ybgi fY`h\Uh']hæj`WcbbYWhYX`hc`h\Y Uddfcdf]UhY`fl´Z Î`Dcg]h]j YŁ`WcbhUWh'

¥ &\$&& k k k "[ga ! gi ddcfh"bYh

