

## D5 '&&\$\$ '6U`UbWY '%"\$

D5%&

9CG; a V< '9'YWfc'Cdh]WU''GmghYa g

## DfcXi Wh HYI hg

 $H\ ]g\ XUhU\ g\ YYh\ Udd\ ]Yg\ hc\ h\ Y\ dfcXi\ Whg\ D5\ \&\&\$\$\ UbX\ D5\ \&\&\$\$\ 7\ UfVcbF\ YXi\ WYX"$ 

## %\$'±a ``UmYf'h\]W\_bYgg

H\Y'UXj UbhU[Y'cZh\Y'6U'UbW'dUfUa YhYf'gYh']g'Yei ]']Vf]i a "'H\Y'`UmYf'h\]W\_bYgg'cZ'%\$`±a 'cZZYfg'U'dYfZYWi'VU'UbW'VYhk YYb dfcXi Wh]cb 'Wcghgz'a YVX Ub]WU`dfcdYfh]Ygz'gi fZUWY'ei U`]hm'UbX 'UWWY fUWh''=h`]g'h\YfYZcfY'gi ]hUV'Y 'Zcf'dUfhg'k ]h\'j Ufm]b[ [Yca Yhf]Ygž'X]a Ybg]cbg'UbX'fYei ]fYa Ybhg"

A YVX Ub]VW`dfcdYfh]Yg	J U`i Y	l b]h	HYgh GhUb XUf X
=ncX bch/XYX]a dUWhghfYb[h\fŽ&'š7Ł	( "(	_>#a	=GC % \$#%5
G\cfY'8'\UfXbYgg	+)	ļ	=GC '+* %-! %

' 8 '8 UHJ	J U`i Y	l b]h	HYgh GhUb XUf X
$ \label{eq:hammond}  H\Y'dfcdYfh]Yg'cZdUfhg'a Ubi ZUWi fYX'i g]b['UXX]h]j Y'a Ubi ZUWi f]b['hYW\bc'c[mfh''[Xi Y'hc'h\Y]f''UmYf'VmYf'dfcXi Wh]cbZ'hc'gca Y'YI hYbh'X]fYWh]cb`XYdYbXYbh''5XX]h]c i gYX'fl CFA \preccurlyeq 5'D'\%LLZ'9CG'D'' - LZ'9CG'D'+LLLZ'h\Y'i gYX''UmYf'h\]W_bYgg'UbX'WeffYdUfh'UbX'XYZ]b]b['h\Y'Vi ]'X'cf]YbHUh]cb" $	bU``mžˈh\`Y´UVX]Yj UV`Y`a YVXU	b]WU`dfcdYfh]Yg'XY	dYbX'Ua cb[gh'ch\Yfg'cb'h\Y'gmghYa
HYbg]`Y`A cXi `i g			=GC ') &+
L'8]fYVMjcb	%*)\$	A DU	
M8]fYVM]cb	%*)\$	A DU	
N 8 fyvMjcb	%*)\$	A DU	
HYbg]`Y`GhfYb[ h\			=GC ') &+
1 10 10 0 10 1			

N8JTYWNJCD	%^)\$	A DU	
HYbg]`Y`GhfYb[h\			=GC ') &+
L'8]fYWn]cb	(,	A DU	
M8]fYWh]cb	(,	A DU	
N'8]fYWn]cb	( &	A DU	
GhfU]b 'Uh'VfYU_			=GC ·) &+
L'8]fYWn]cb	%,	1	
M8]fYVM]cb	%,	1	
N'8]fYWn]cb	(	1	

7\Ufdmi]a dUWhighfYb[h\iflŽ&' š7ž'L 8]fYWh]cbŁ	) '	_>#a	=GC `%+ - #%YI
7\UfdmbchWXYX`]a dUWh`ghfYb[h\`flŽ&' š7ž'L`8]fYWh]cbŁ	(",	_>#a	=GC *%+- #%Y5
: `YI i fU``A cXi `i g`fl&' š7ž'L `8]fYVM]cbŁ	%) \$\$	A DU	=GC ·%+,

H\Yfa U`dfcdYfh]Yg	J U`i Y	l b]h	HYgh GhUb XUf X
A Y`h]b[ 'hYa dYfUhi fY'f&\$š7#a ]bŁ	%+ *	š7	=GC '%%' ) +! %#! '
J]WUhgcZhYb]b[ hYa dYfUh fY f) \$\$7#\ ) \$BŁ	%* <b>'</b>	š7	=GC '' \$*
6i fb]b[ 'VY\Uj ]cf			l @'- (
HYgh'dUggYXž'<6	\$")	аа	
HYgh'd UggYXž' < 6	%"*	аа	
HYgh'd UggYXž' < 6	' "&	аа	

Ch\Yf'dfcdYfh]Yg	JUiΥ	l b]h	HYgh GhUb XUf X
8 Ybg]hmflUgYfg]bhYfYXŁ	-'\$	_[ #a	9CG A Yh\cX
Dck XYf 'Wc`ci f 'fluW' hc 'gUZYhm XUhU 'g\YYhŁ	K ∖]hY	ļ.	ļ