

**Table 5.** NMR Chemical Shifts of the Smith Oligosaccharide of *Vibrio vulnificus* ATCC 27562<sup>a</sup>

Resonance	Residue				
	$\alpha$ -MurNAc <b>a</b>	$\alpha$ -GalA <b>b</b>	$\beta$ -GlcNAc <b>d</b>	Ser <b>s</b>	Tetritol <sup>b</sup> <b>t</b>
H1	5.290 (3.42) <sup>c</sup>	5.246 (3.76) <sup>c</sup>	4.410 (8.59) <sup>c</sup>		3.651
H1'					3.627
H2	3.595	3.761	3.673		3.746
H2'	4.600				
H3	3.743	3.963	3.776		4.060
H3'	1.401				
H4	3.732	4.206	3.353		1.201
H5	3.968	4.626	3.300		
H6	3.798		3.875		
H6'	3.769		3.650		
H <sub><math>\alpha</math></sub>				4.289	
H <sub><math>\beta</math></sub>				3.910	
H <sub><math>\beta'</math></sub>				3.860	
H <sub>N</sub>				7.940	
NAc:					
H <sub>N</sub>	10.109		7.901		
H <sub>M<math>\epsilon</math></sub>	2.120		2.020		
C1	98.674	98.479	103.150		62.100
C1'	181.155				
C2	54.912	67.740	56.470		82.336
C2'	79.419				
C3	76.695	79.800	73.200		67.360
C3'	18.929				
C4	71.055	71.833	71.060		17.762
C5	73.000	77.863	76.110		
C6	59.774	170.846	62.300		
C <sub><math>\alpha</math></sub>				57.246	
C <sub><math>\beta</math></sub>				62.886	
NAc:					
C <sub>M<math>\epsilon</math></sub>	23.070		23.062		
C <sub>CO</sub>	174.725		174.720		

<sup>a</sup> Chemical Shifts are with reference to internal acetone (<sup>1</sup>H 2.225 ppm; <sup>13</sup>C 31.07 ppm).

<sup>b</sup> Numbering of atoms of tetritol moiety is as follows:

1 hydroxy methyl; 2 linkage point; 4 methyl.

<sup>c</sup> Homonuclear vicinal coupling constants (<sup>3</sup>J<sub>H<sub>1</sub>H<sub>2</sub></sub>) of anomeric protons.