



STRUCTURAL  
CHEMISTRY

**Volume 78 (2022)**

**Supporting information for article:**

**D-Mannosamine hydrochloride (2-amino-2-deoxy-D-mannose hydrochloride): ionic hydrogen bonding in saccharides involving chloride and ammonium ions**

**Jieye Lin, Allen G. Oliver and Anthony S. Serianni**

**Table S1** The rigid-body vibration analysis of (I).

Atom-Atom	1	2	3	4	5	6	7	8	9	10	11	12
<b>1</b> O1	0	4	4	4	4	8	-5	5	4	0	4	2
<b>2</b> O3	5	0	6	2	3	3	1	1	-3	0	0	0
<b>3</b> O4	5	3	0	2	7	1	7	2	1	-1	1	5
<b>4</b> O5	2	4	4	0	1	2	0	0	3	1	0	6
<b>5</b> O6	5	6	4	3	0	2	1	1	1	5	2	-4
<b>6</b> N2	3	3	4	3	6	0	5	0	1	3	3	3
<b>7</b> C1	-1	4	4	-1	4	2	0	0	2	1	1	4
<b>8</b> C2	2	2	4	2	5	-1	-2	0	-1	0	0	4
<b>9</b> C3	4	-1	2	3	5	2	3	-2	0	-2	3	3
<b>10</b> C4	4	2	-1	2	4	3	3	3	-2	0	-2	0
<b>11</b> C5	4	4	2	-1	2	4	2	3	3	-2	0	-1
<b>12</b> C6	5	5	3	2	-1	5	4	4	4	3	-1	0

The entries highlighted in grey represent  $\text{Del}(A,B) \times 1000$  values, which should be near zero. The remaining entries represent distances (A–B) in angstroms. Negative entries indicate bonded atoms. (Hirshfeld, 1976; Rosenfield, 1978). Atoms of the minor  $\alpha$ -anomer (disordered region) are omitted for clarity.