

## Supplementary Information

### **Negative linear compression and expanding NH...N bond in an imidazoline compound**

Michalina Anioła,<sup>a</sup> Andrzej Katrusiak,<sup>\*a</sup> Reza Kia<sup>b</sup>

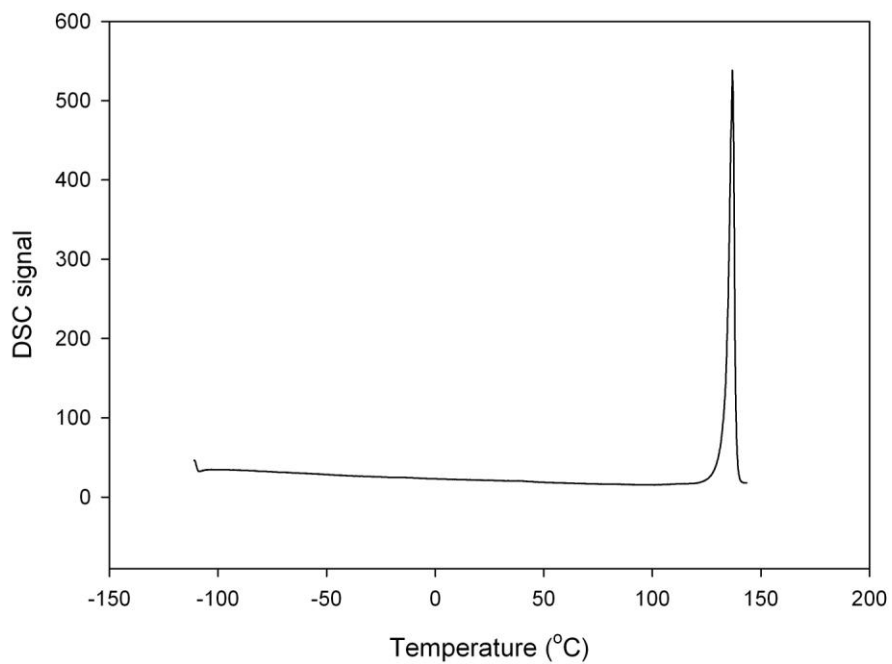
<sup>a</sup>*Faculty of Chemistry, Adam Mickiewicz University, Grunwaldzka 6, 60-780 Poznań, Poland.*

<sup>b</sup>*Structural Dynamics of (Bio)Chemical Systems Max-Planck-Institute for Biophysical Chemistry Am Fassberg 11,37077 Goettingen, Germany.*

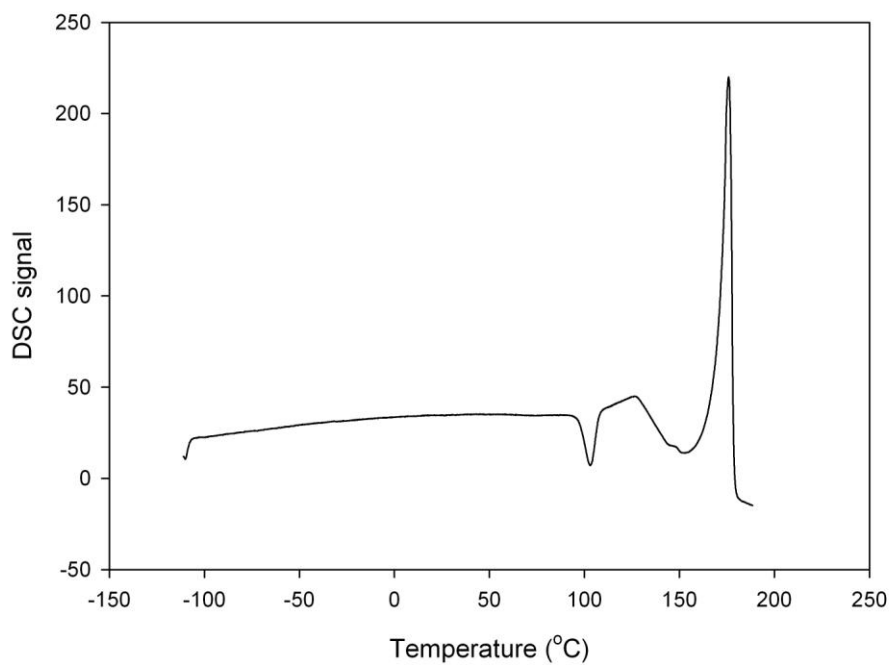
\*Corresponding author. E-mail: katran@amu.edu.pl

**Table S1** Crystal data and structure-refinements details of ambient- and high-pressure measurements of C<sub>9</sub>H<sub>9</sub>N<sub>2</sub>Cl (compound I) at 296 K.

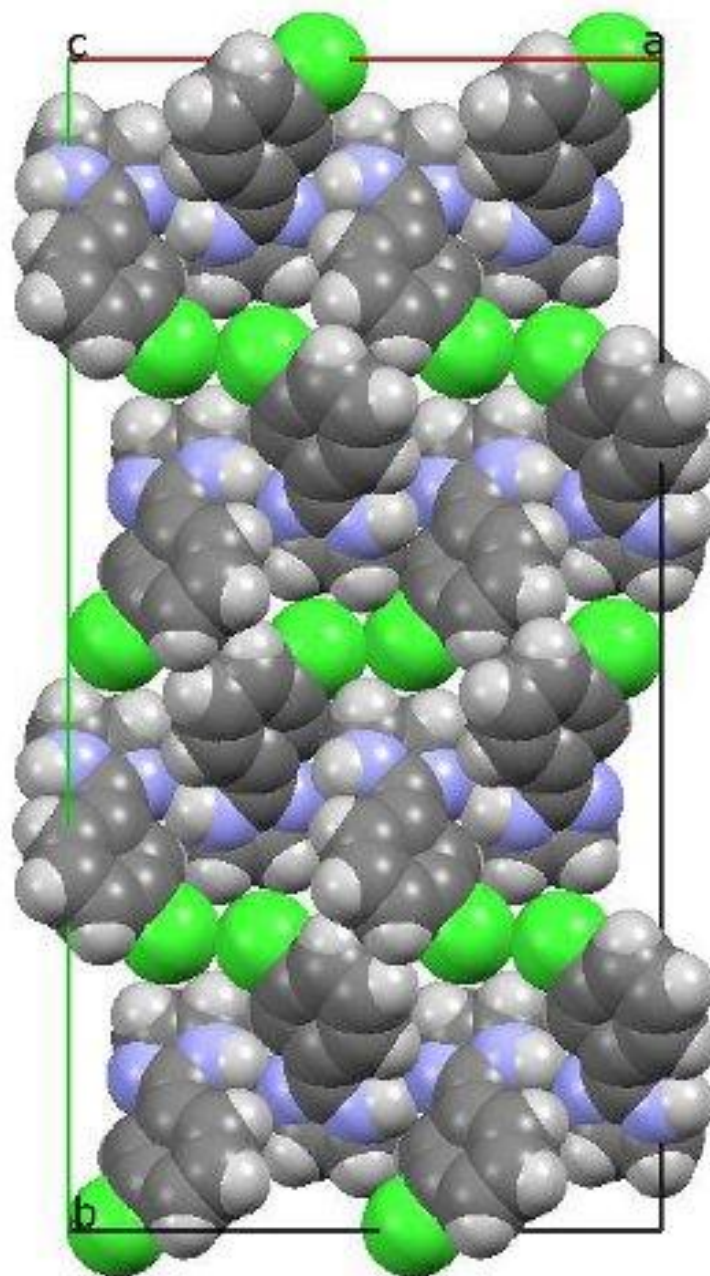
Pressure	0.1 MPa	0.08 GPa	1.20 GPa
Formula weight	180.63	180.63	180.63
Wavelength (Å)	1.54178	0.71073	0.71073
Crystal system	Orthorhombic	Orthorhombic	Orthorhombic
Space group	<i>Fdd2</i>	<i>Fdd2</i>	<i>Fdd2</i>
Unit cell dimensions (Å), <i>a</i>	19.8523(3)	19.875(6)	19.659(9)
<i>b</i>	39.3437(7)	39.36(3)	38.94(4)
<i>c</i>	4.46970(10)	4.398(4)	4.070(5)
Volume (Å <sup>3</sup> )	3491.12(11)	3441(5)	3115(5)
<i>Z</i>	16	16	16
Calculated density (g/cm <sup>3</sup> )	1.375	1.395	1.540
Absorption coefficient (mm <sup>-1</sup> )	3.392	0.384	0.424
F(000) (e)	1504	1504	1504
Crystal size (mm)	0.62/0.21/0.09	0.42/0.37/0.23	0.42/0.37/0.23
θ-range for data collection (°)	4.50 to 73.79	4.10 to 17.90	4.65 to 24.68
Min/max indices: h, k, l	-24/24,-48/42,-5/5	-17/17,-20/20,-3/3	-22/22,-11/11,-4/4
Reflect. Collected/unique	35785 / 1764	2242 / 340	2892 / 373
<i>R</i> <sub>int</sub>	0.1654	0.2946	0.3073
Refinement method	Full-matrix least squares		
Completeness (%)	99.9	54.0	27.0
Data/restraints/parameters	1764 / 1 / 114	340 / 1 / 45	373 / 16 / 33
Goodness-of-fit on F <sup>2</sup>	1.110	1.291	1.224
Final <i>R</i> <sub>1</sub> / <i>wR</i> <sub>2</sub> (I>2σ <sub>1</sub> )	0.0579/ 0.1695	0.0994/0.2218	0.1266/0.2628
<i>R</i> <sub>1</sub> / <i>wR</i> <sub>2</sub> (all data)	0.0591/ 0.1714	0.1145/0.2367	0.1802/0.2861
Largest diff. peak/hole (e.Å <sup>-3</sup> )	0.233/-0.227	0.186/-0.200	0.427/-0.381



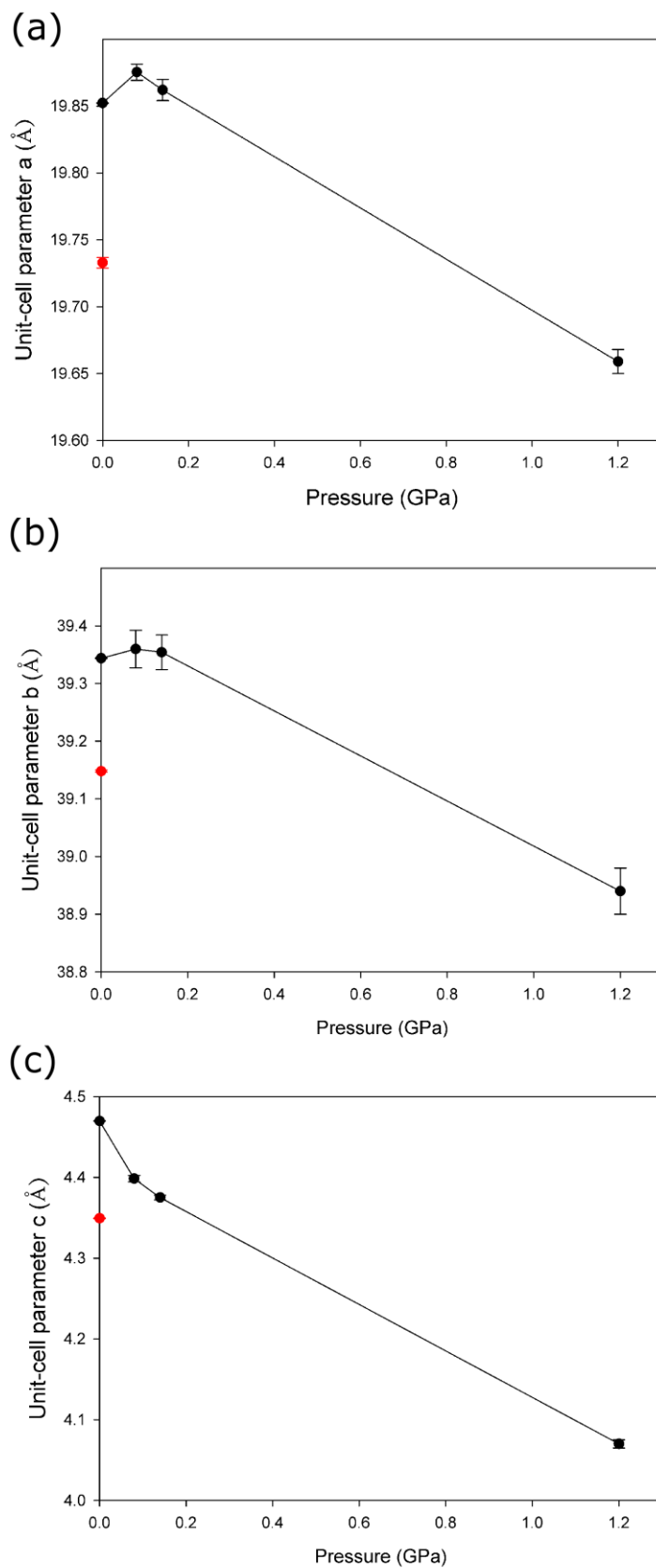
**Fig. S1** DSC signal of 2-(3'-chlorophenyl)-imidazoline (compound **I**).



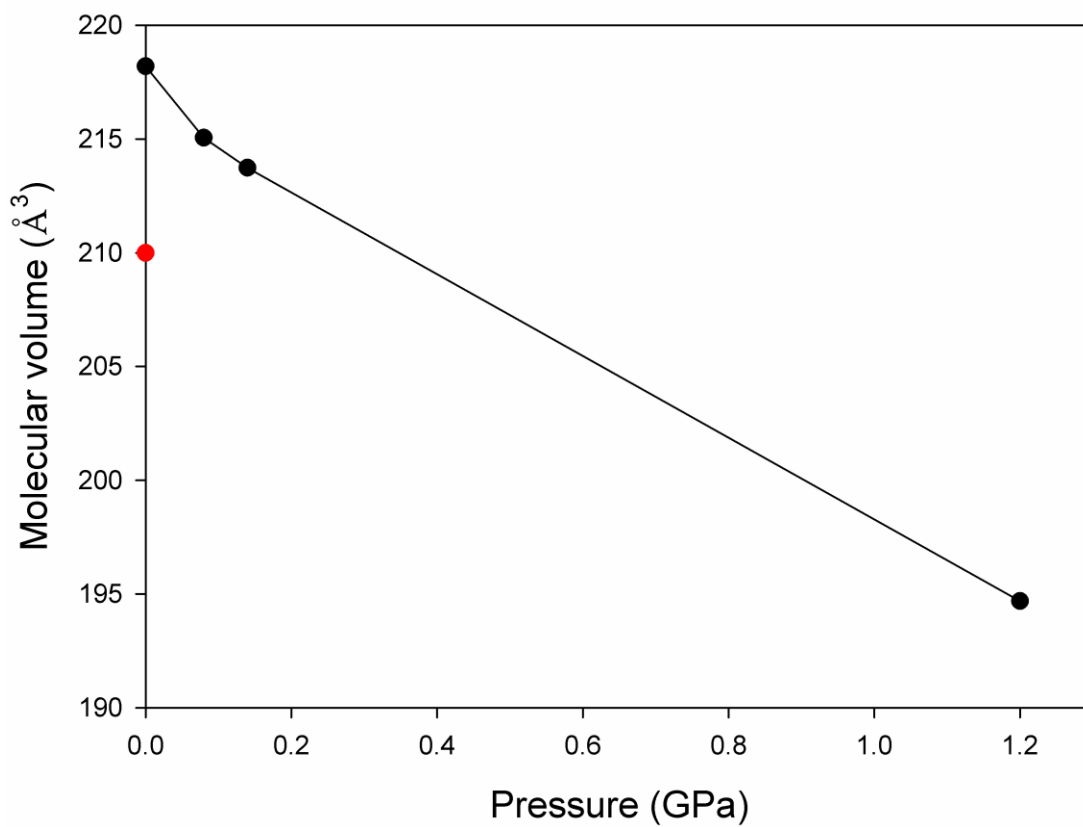
**Fig. S2** DSC signal of 2-(4,5-dihydro-1H-imidazol-2-yl)-pyridine (compound **II**).



**Fig. S3** The space-filling representation of the unit-cell contents of 2-(3'-chlorophenyl)-imidazoline (compound **I**) viewed down [z].



**Fig. S4** Unit-cell parameters in the function of pressure at 296 K (black dots), and at lower temperature at 100 K (red dots): (a) parameter *a*; (b) parameter *b* and (c) parameter *c*.



**Fig. S5** The pressure dependence of molecular volume (unit-cell volume/ $Z$ ) of  $C_9H_9N_2Cl$  (compound **I**) at 296 K, measured by single-crystal x-ray diffraction (black dots). The  $V_m$  value previously measured at 100 K (red dots) has also been shown.