## Insitu High Pressure Neutron Diffraction and Raman Spectroscopy of

## 20BaO-80TeO<sub>2</sub>

Atul Khanna<sup>1\*</sup>, Amarjot Kaur<sup>1</sup>, Hirdesh<sup>1</sup>, Shekhar Tyagi<sup>2</sup>, Nicholas P. Funnell<sup>3</sup>, and Craig.L.

Bull<sup>3</sup>

<sup>1</sup>Department of Physics, Guru Nanak Dev University, Amritsar-143005, Punjab, India

<sup>2</sup>UGC-DAE-Consortium of Scientific Research, University Campus, Khandwa Road, Indore-

452001, India

<sup>3</sup>ISIS Neutron and Muon Facility, Rutherford Appleton Laboratory, Chilton, Didcot, Oxon OX11 0QX, United Kingdom



## **Supplementary File**

Fig. S1(a). The distribution of coordination environments for barium with oxygen ( $N_{Ba-O}$ ) at ambient pressure, 3.0, 6.5 and 9.0 GPa in 20BaO-80TeO<sub>2</sub> glass.



Fig. S1(b). The distribution of coordination environments for Te with oxygen ( $N_{Te-O}$ ) at ambient pressure, 3.0, 6.5 and 9.0 GPa in 20BaO-80TeO<sub>2</sub> glass.



**Fig. S1(c).** The distribution of O-O coordination environments ( $N_{O-O}$ ) at ambient pressure, 3.0, 6.5 and 9.0 GPa in 20BaO-80TeO<sub>2</sub> glass.



**Fig. S2(a).** Distribution of O-Ba-O bond angles in  $20BaO-80TeO_2$  glass (the curves for 3.0, 6.5 and 9.0 GPa are shifted by 0.1 units successively for clarity).



**Fig. S2(b).** Distribution of O-Te-O bond angles in  $20BaO-80TeO_2$  glass (the curves for pressure 3.0, 6.5 and 9.0 GPa are shifted by 0.1 units successively for clarity).



**Fig. S2(c).** Distribution of O-O-O bond angles in 20BaO-80TeO<sub>2</sub> glass (the curves for 3.0, 6.5 and 9.0 GPa are shifted by 0.1 units successively for clarity).