## Electronic Supplementary Information (ESI)

## Vibrational and Optical Identification of GeO<sub>2</sub> and GeO Single Layers: A First-Principles Study

Y. Sozen,<sup>1</sup> M. Yagmurcukardes,<sup>2,1,3</sup> and H. Sahin<sup>1</sup>

<sup>1</sup>Department of Photonics, Izmir Institute of Technology, 35430, Izmir, Turkey <sup>2</sup>Department of Physics, University of Antwerp, Groenenborgerlaan 171, B-2020 Antwerp, Belgium

<sup>3</sup>NANOlab Center of Excellence, Groenenborgerlaan 171, B-2020 Antwerp, Belgium.

## I. SUPPLEMENTARY FIGURES

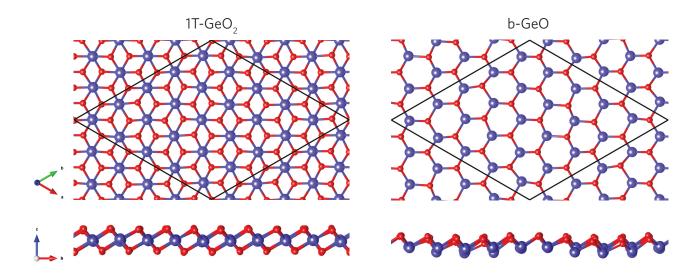


FIG. S1: Top and side view of crystal structures at room temperature from molecular dynamics simulations.