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Supplementary Materials

Mechanical Properties and Deformation Mechanisms of Graphene Foams with Bi-Modal Sheet Thickness by Coarse-Grained Molecular Dynamics Simulations

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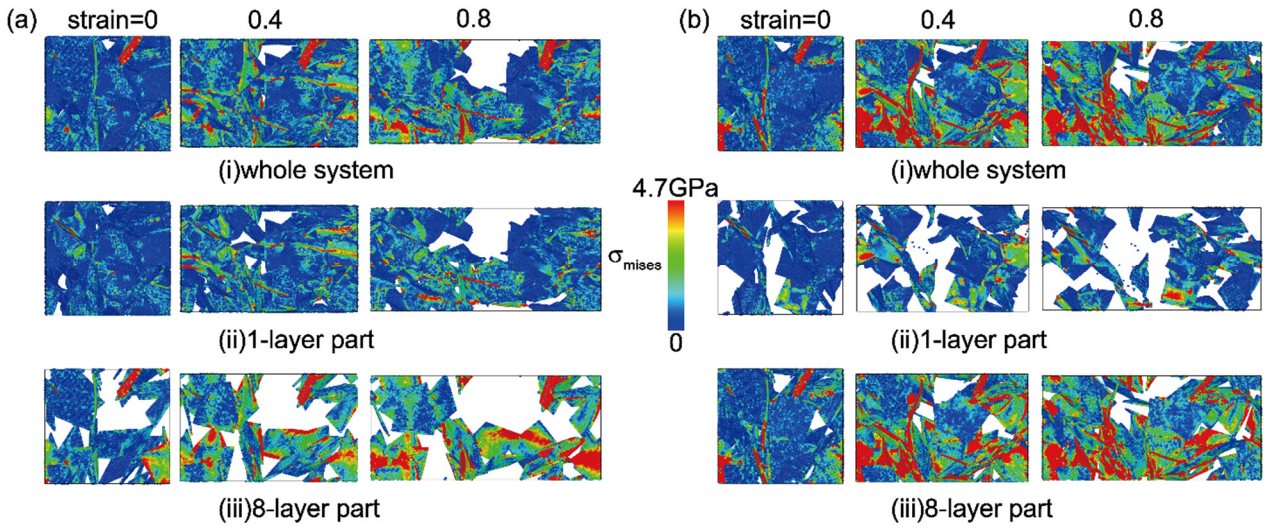

Figure S1. (**a–i**) The distribution of the local von-Mises stress of the whole GrF system with the proportion of 8-layer sheet $v = 30\%$, for a direct comparison of the stress distribution in the 1-layer soft and 8-layer sheets, the two parts are displayed separately in (**a–ii**) and (**a–iii**); (**b–i**) The distribution of the local von-Mises stress of the whole GrF system with the proportion of 8-layer sheet $v = 70\%$, for a direct comparison of the stress distribution in the 1-layer soft and 8-layer sheets, the two parts are displayed separately in (**b–ii**) and (**b–iii**).

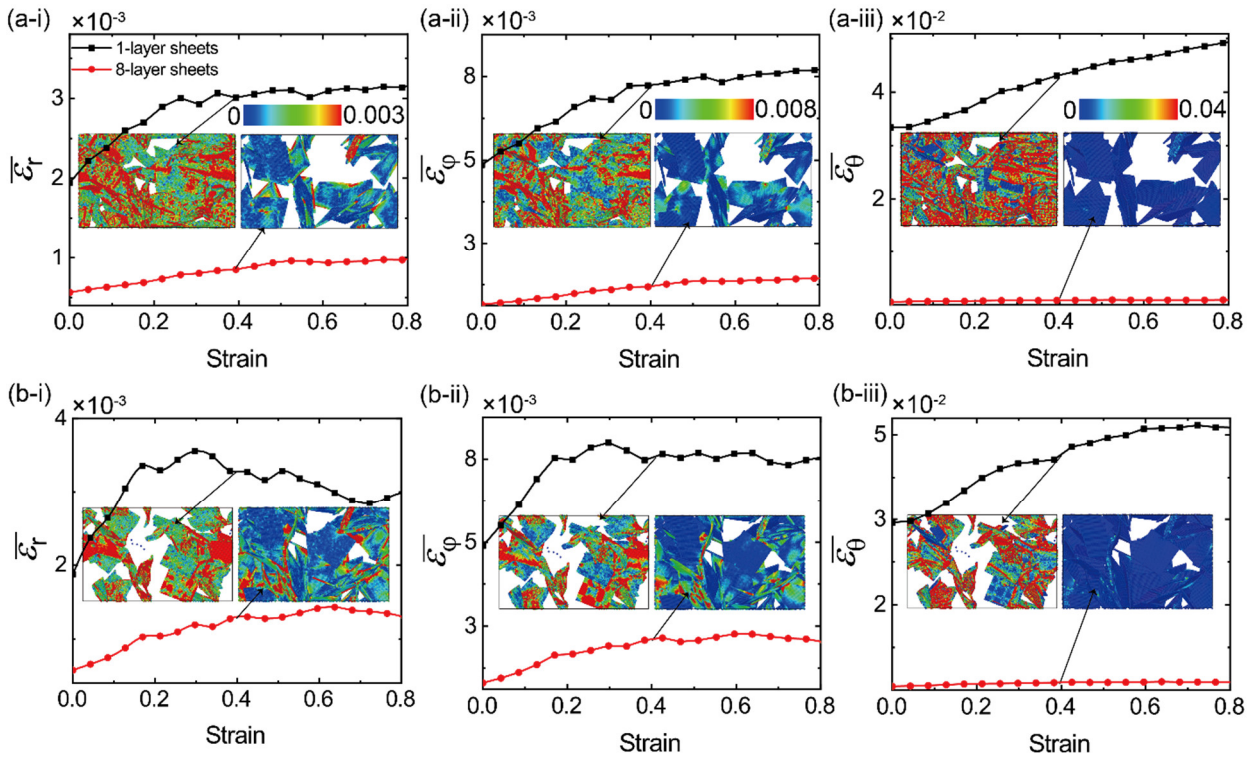

Figure S2. The comparison of the variation of (**a–i**) bond length, (**a–ii**) in-plane shearing angle and (**a–iii**) out-of-plane bending angle in 1-layer soft sheets and 8-layer hard sheets, respectively. The distribution of (**a–i**) the bond strain, (**a–ii**) shear angle, (**a–iii**) bending angle in the whole GrF system with the proportion of 8-layer sheet $v = 30\%$ at the tensile strain of 0.4 for a direct comparison of the strain distribution in 1-layer soft sheets and 8-layer hard sheets, the two parts are displayed separately; The comparison of the variation of (**b–i**) bond length, (**b–ii**) in-plane shearing angle and (**b–iii**) out-of-plane bending angle in 1-layer soft sheets and 8-layer hard sheets, respectively. The distribution of (**b–i**) the bond strain, (**b–ii**) shear angle, (**b–iii**) bending angle in the whole GrF system with the proportion of 8-layer sheet $v = 70\%$ at the tensile strain of 0.4 for a direct comparison of the strain distribution in 1-layer soft sheets and 8-layer hard sheets, the two parts are displayed separately.