Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supplementary material of "A fractal structural feature related to dynamic crossover in metallic glass-forming liquid"

Wei Chu, Jinhua Yu, Nannan Ren, Zheng Wang*, Lina Hu*

*Corresponding author. Email: hulina0614@sdu.edu.cn (L. Hu); zheng.wang@sdu.edu.cn (Z. Wang).

Supplementary Materials includes:

Figures S1-S3

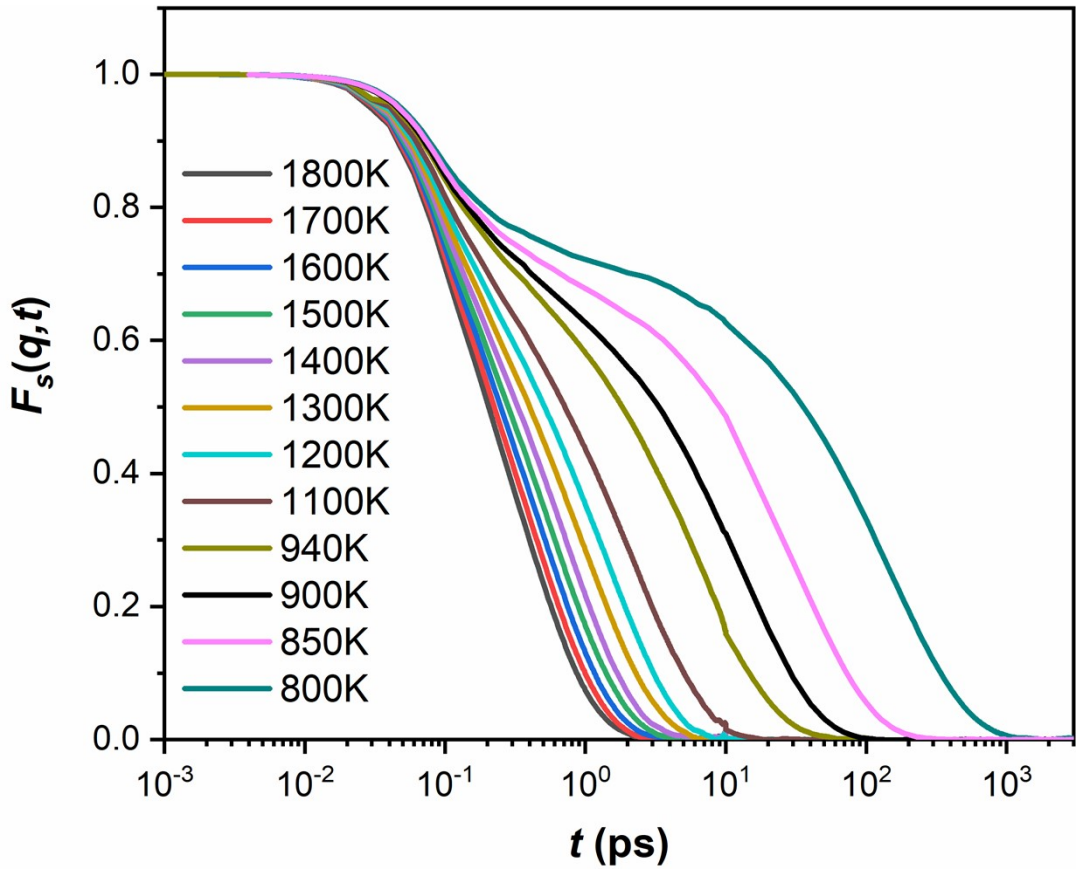

Fig. S1 Self-intermediate scattering functions of all atoms at different temperatures under zero pressure (P=0 GPa).

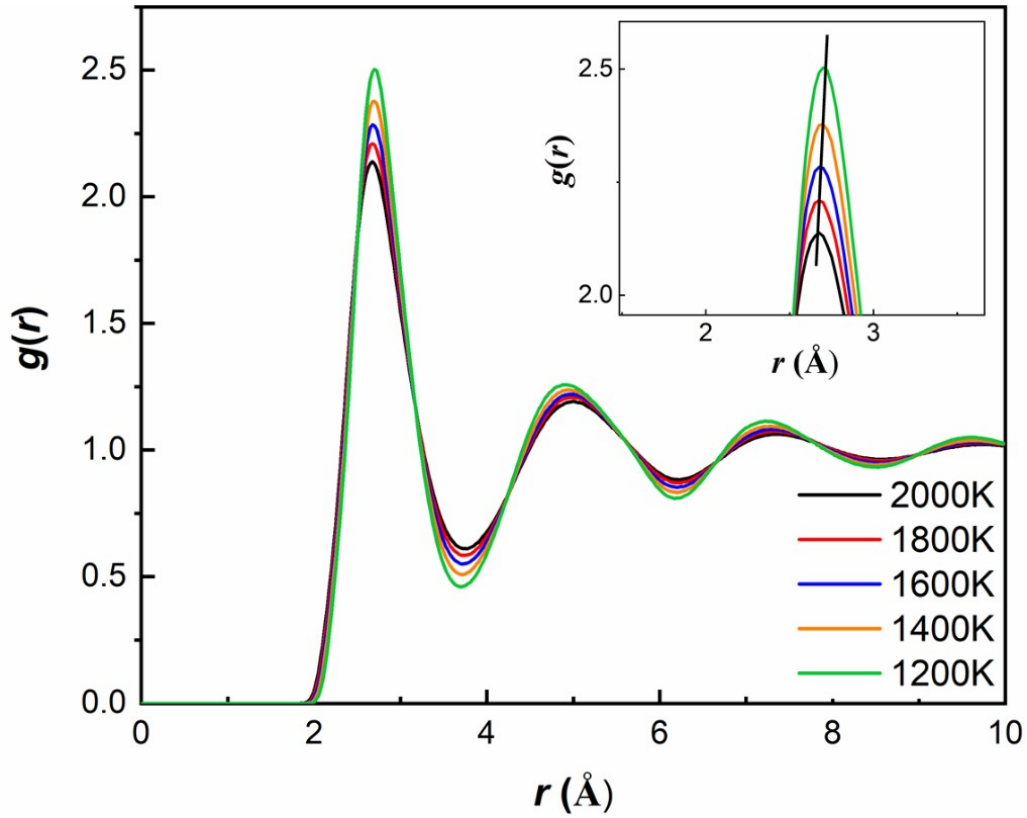

Fig. S2 The total pair distribution functions at different temperatures during cooling (from 2000 K to 1200 K) for $Cu_{50}Zr_{50}$ liquid. The inset shows the details of the first peaks at different temperatures. Unlike the first peak of PDFs below T_c (see Fig. 3(b)), it is obvious that the peak position of the first peak of PDFs is always changing upon cooling from higher temperatures.

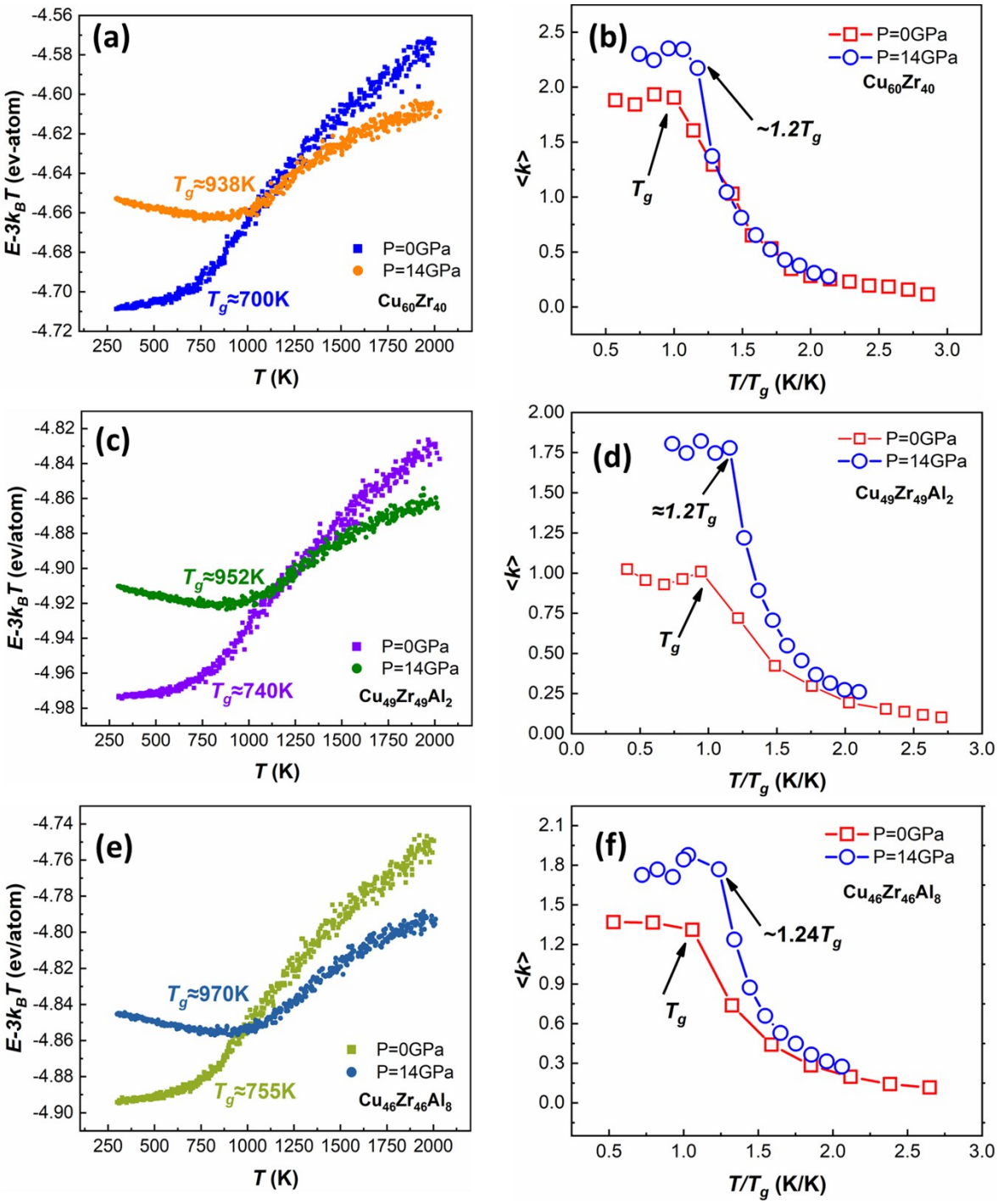

Fig. S3 Temperature dependence of E-$3k_BT$ upon quenching of (a) $Cu_{60}Zr_{40}$, (c) $Cu_{49}Zr_{49}Al_2$, (e) $Cu_{46}Zr_{46}Al_8$ liquids at two external hydrostatic pressures. Temperature dependence of <k> for (b) $Cu_{60}Zr_{40}$, (d) $Cu_{49}Zr_{49}Al_2$, (f) $Cu_{46}Zr_{46}Al_8$ liquids under two pressure (P=0 GPa and P=14 GPa). A same fractal behavior like that in $Cu_{50}Zr_{50}$ liquid is observed.