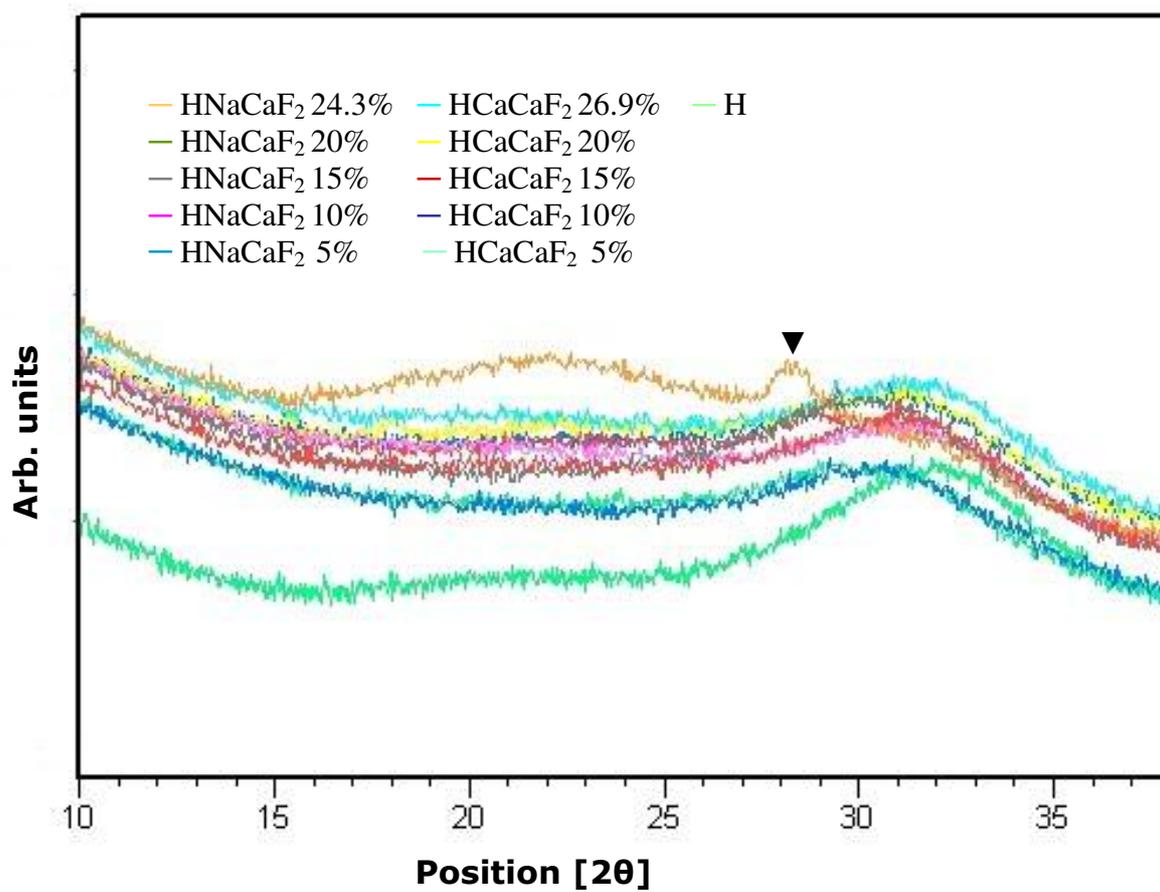
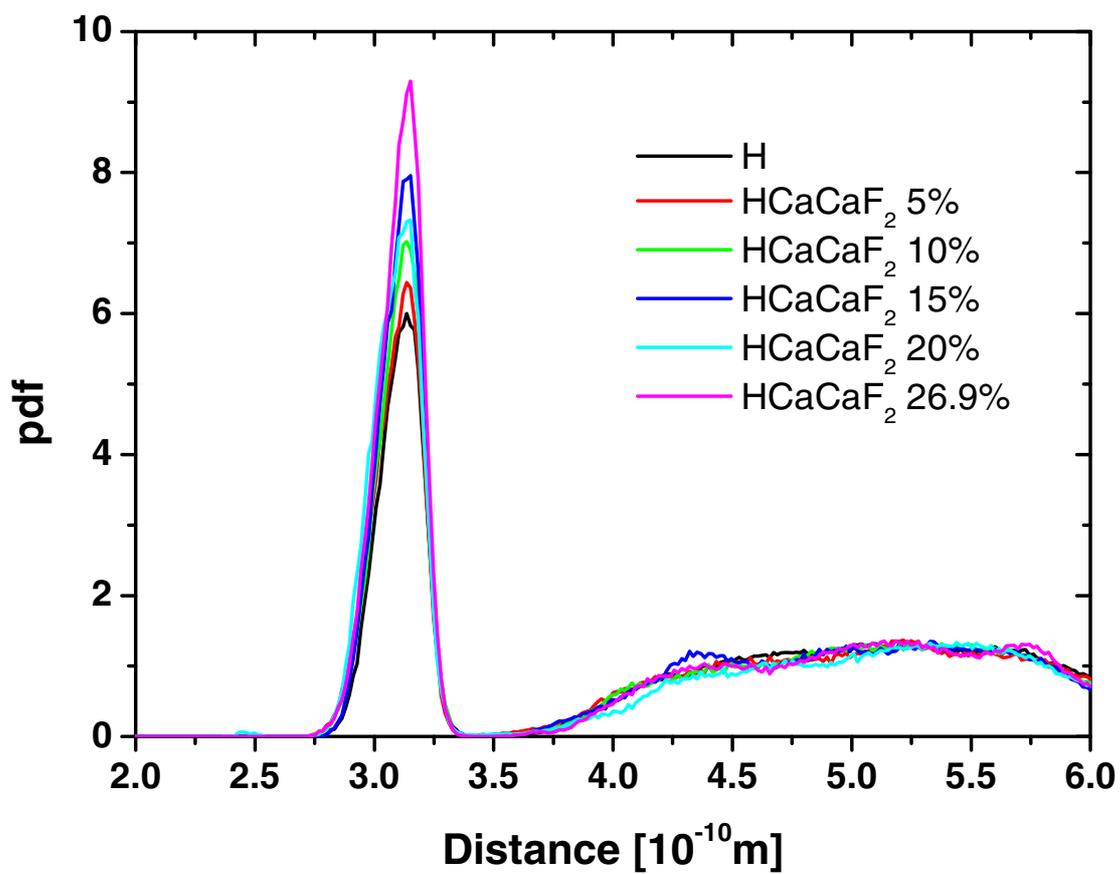


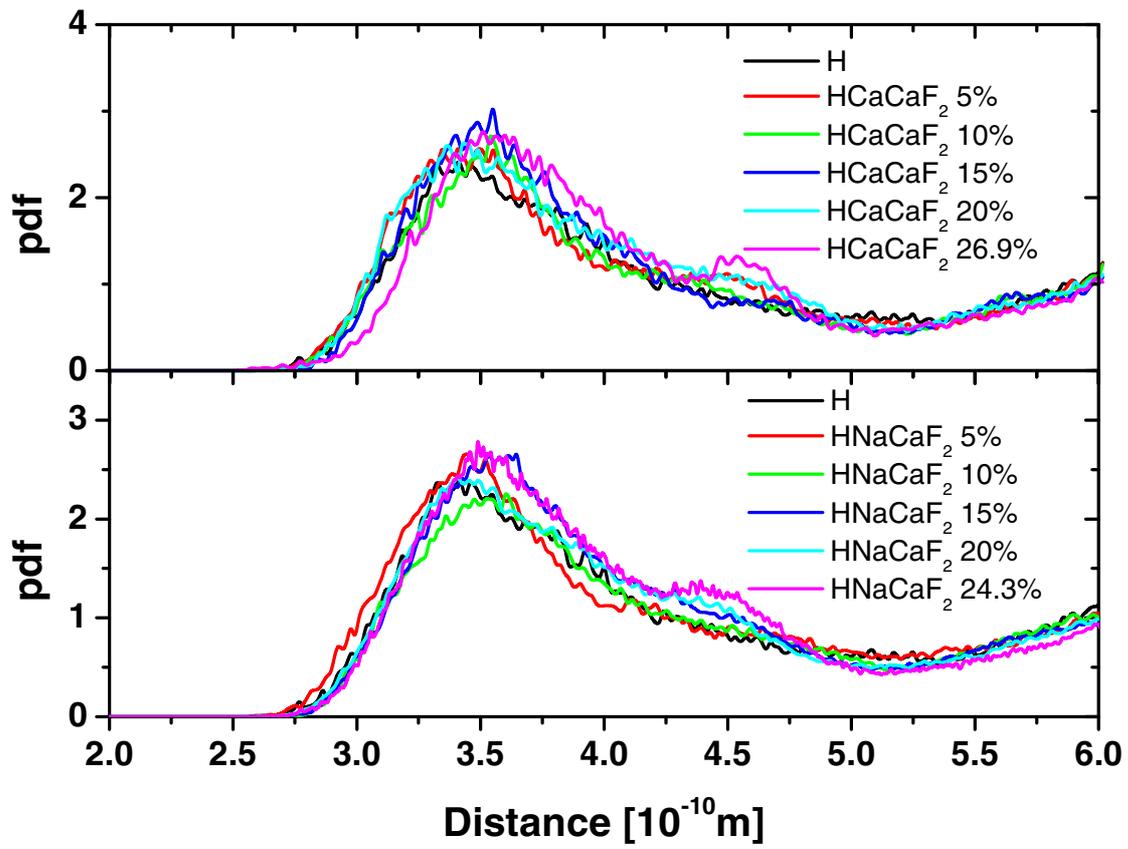
## Supporting materials



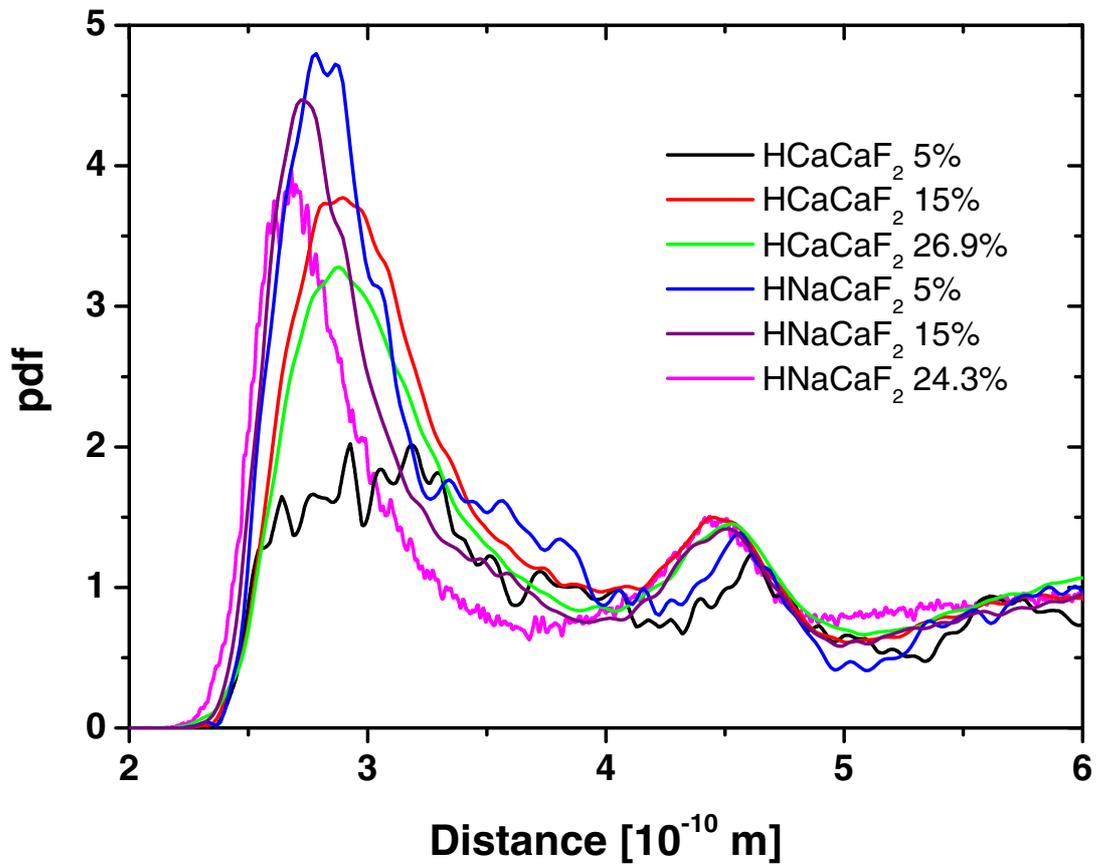
**Figure S1:** The XRD spectra of the as-quenched samples. ( $\blacktriangledown$  = CaF<sub>2</sub>)



**Figure S2:** Si-Si Pair Distribution Functions for the HCaCaF<sub>2</sub> glass series.



**Figure S3:** Ca-Ca Pair Distribution Functions for the HCaCaF<sub>2</sub> and HNaCaF<sub>2</sub> glass series.



**Figure S4:** F-F Pair Distribution Functions for the studied glasses.