Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics

In situ X-ray pair distribution function analysis of geopolymer gel nanostructure formation kinetics

Claire E. White, John L. Provis, Breaunnah Bloomer, Neil J. Henson and Katharine Page

Electronic Supplementary Information

Given below are supporting Figures including an example of the total scattering patterns acquired on beamline 11-ID-B at the Advanced Photon Source (Figure S.1.) and the atomic pair distribution functions of high alkali hydroxide-activated metakaolin (Figure S.2.), high alkali hydroxide-activated slag (Figure S.3.), low alkali hydroxide-activated metakaolin (Figure S.4.), low alkali silicate-activated metakaolin (Figure S.5.) and low alkali silicate-activated slag (Figure S.6.). Also included is an example of the quality of fit obtained using the extent of reaction quantification method (Figure S.7.).

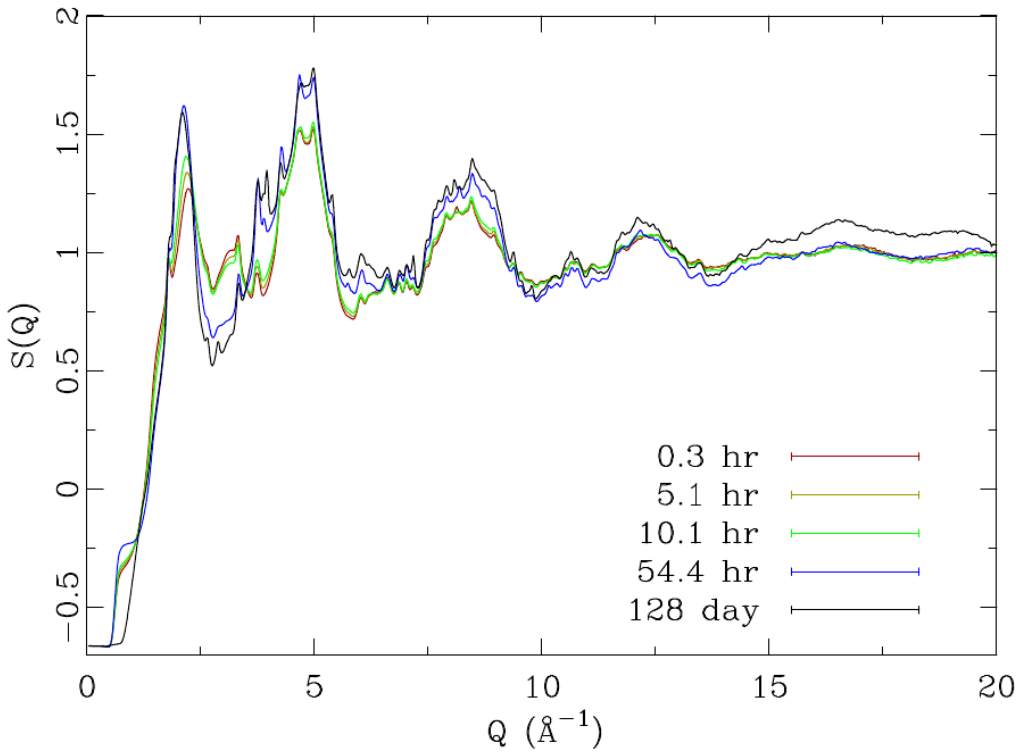

Figure S.1. In-situ X-ray total scattering functions of the geopolymerisation reaction for high alkali hydroxide-activated metakaolin, obtained at times as marked.

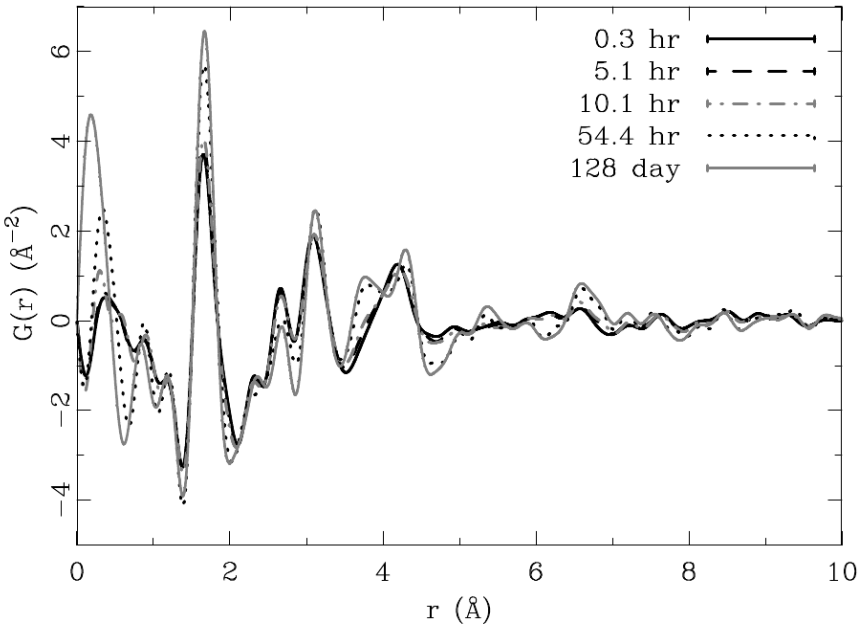

Figure S.2. In-situ X-ray pair distribution functions of high alkali hydroxide-activated metakaolin, obtained at times as marked.

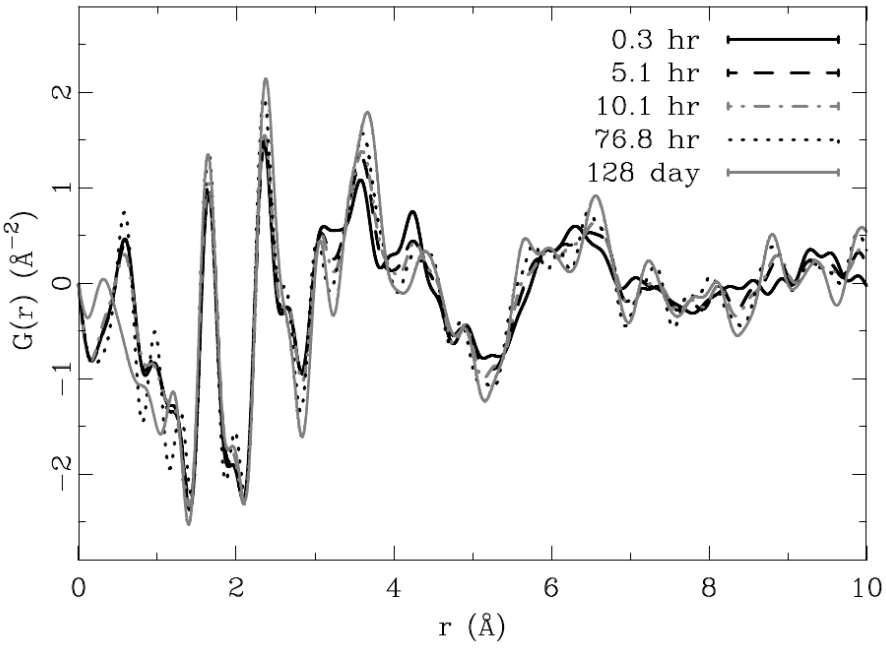

Figure S.3. In-situ X-ray pair distribution functions of high alkali hydroxide-activated slag, obtained at times as marked.

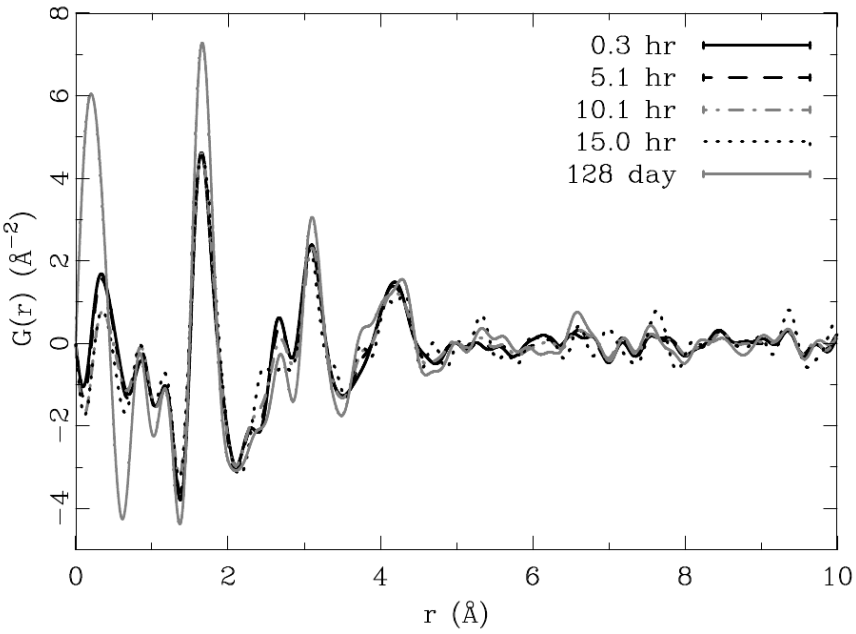

Figure S.4. In-situ X-ray pair distribution functions of low alkali hydroxide-activated metakaolin, obtained at times as marked.

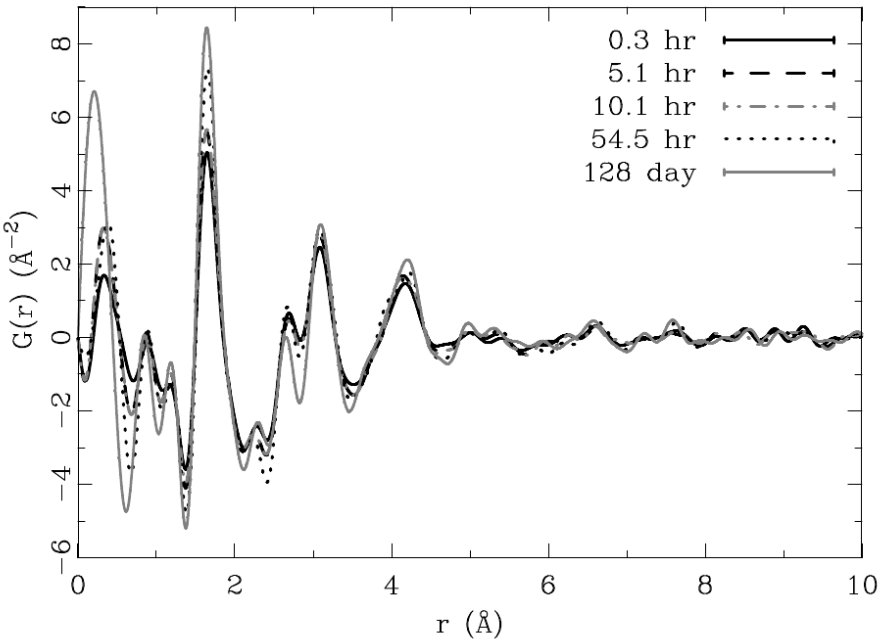

Figure S.5. In-situ X-ray pair distribution functions of low alkali silicate-activated metakaolin, obtained at times as marked.

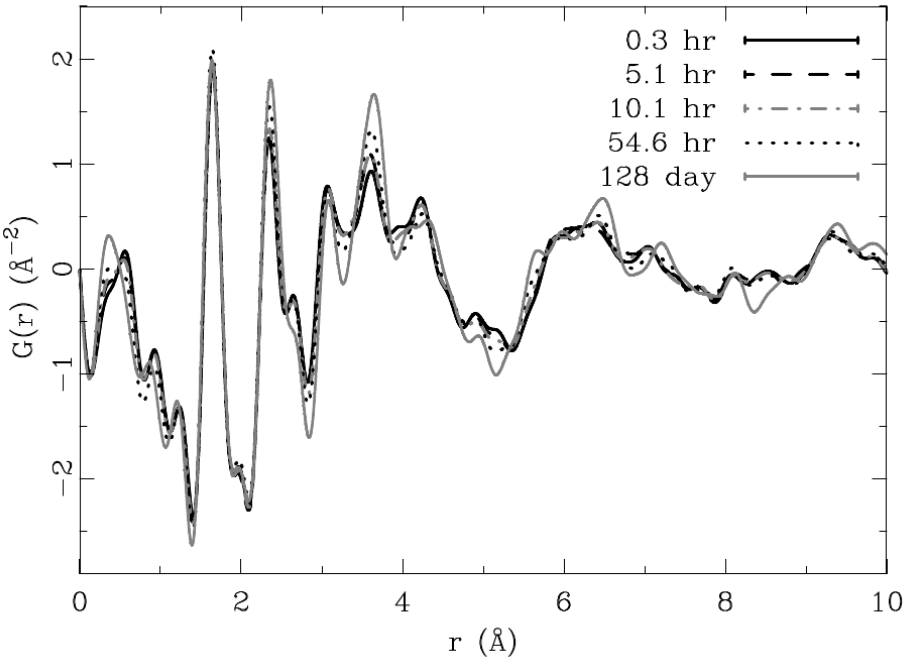

Figure S.6. In-situ X-ray pair distribution functions of low alkali silicate-activated slag, obtained at times as marked.

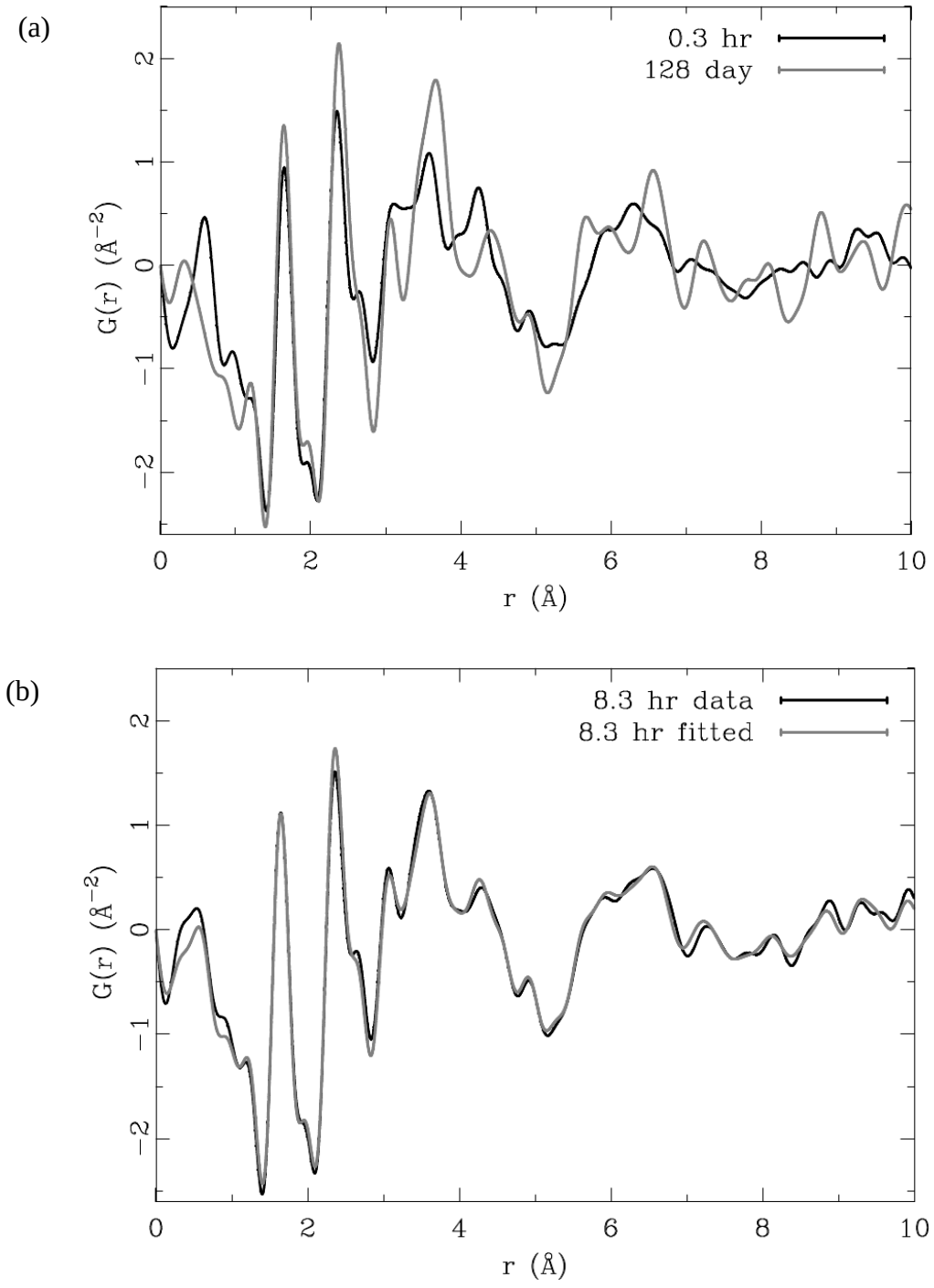

Figure S.7. In-situ X-ray pair distribution functions (PDFs) of high alkali hydroxide-activated slag: **(a)** First and final PDFs, obtained at times as marked. **(b)** PDF obtained at 8.3 hrs, with the fit to data obtained by a linear combination of the PDFs in **(a)** with $\alpha = 0.405$.