materials

MDPI

Supplementary Materials

^{13}C, ^{27}Al and ^{29}Si NMR Investigation of the Hydration Kinetics of Portland-Limestone Cement Pastes Containing CH_3-COO^--R^+ (R=H or Na) Additives

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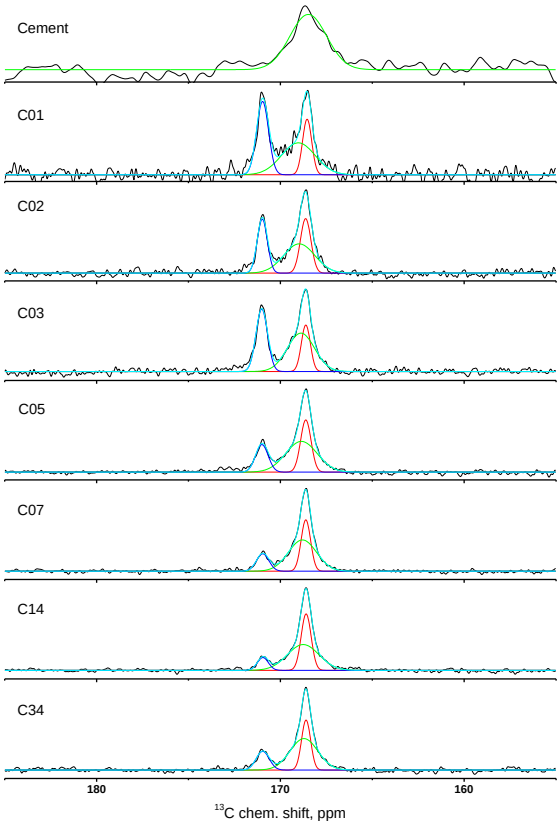
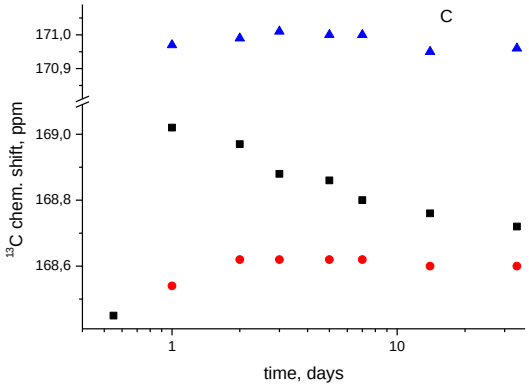


(**a**)



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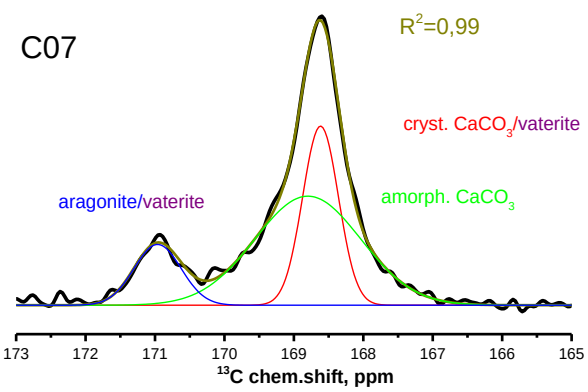
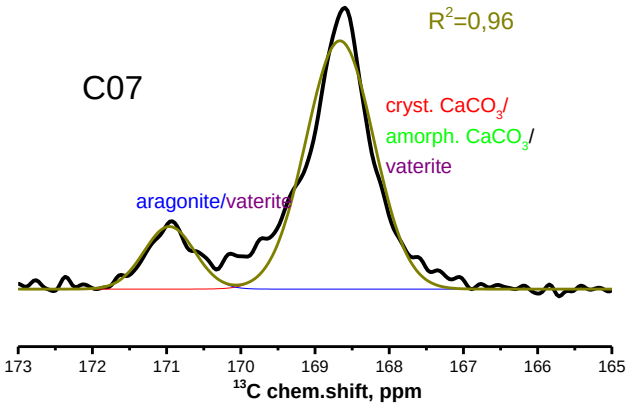
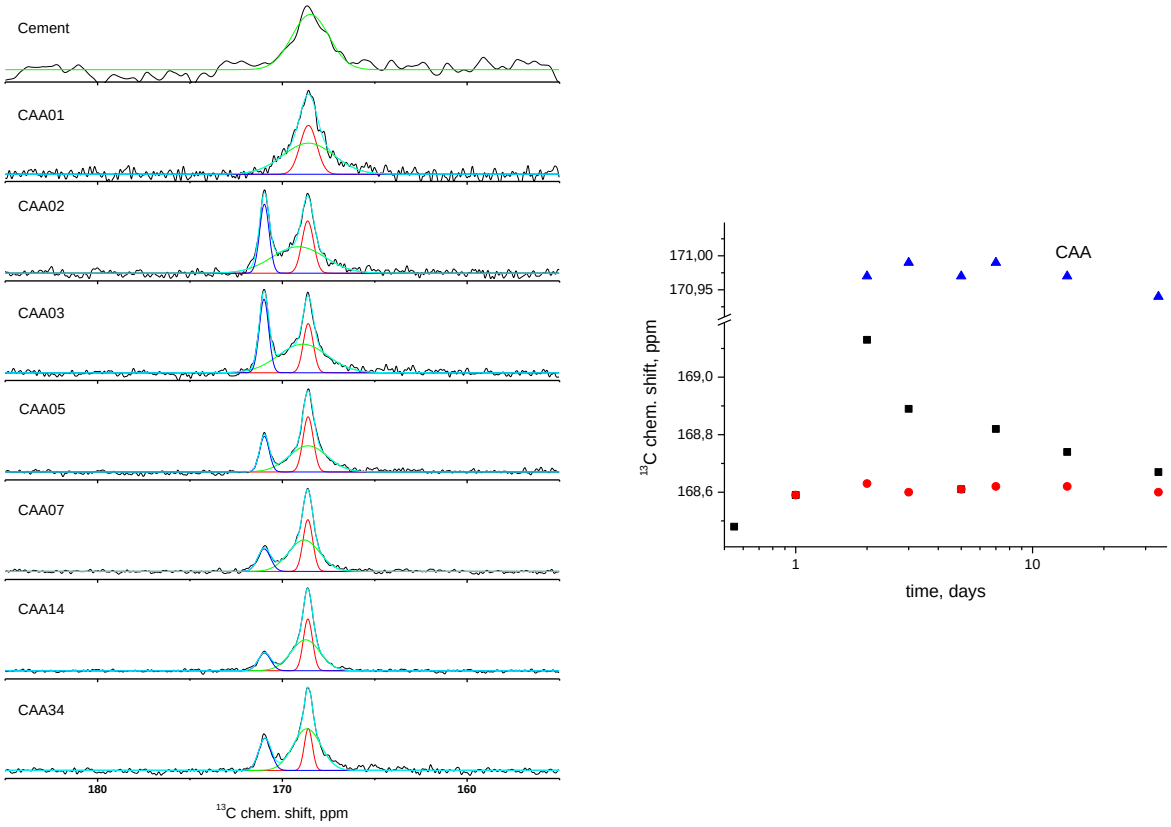


(**c**)



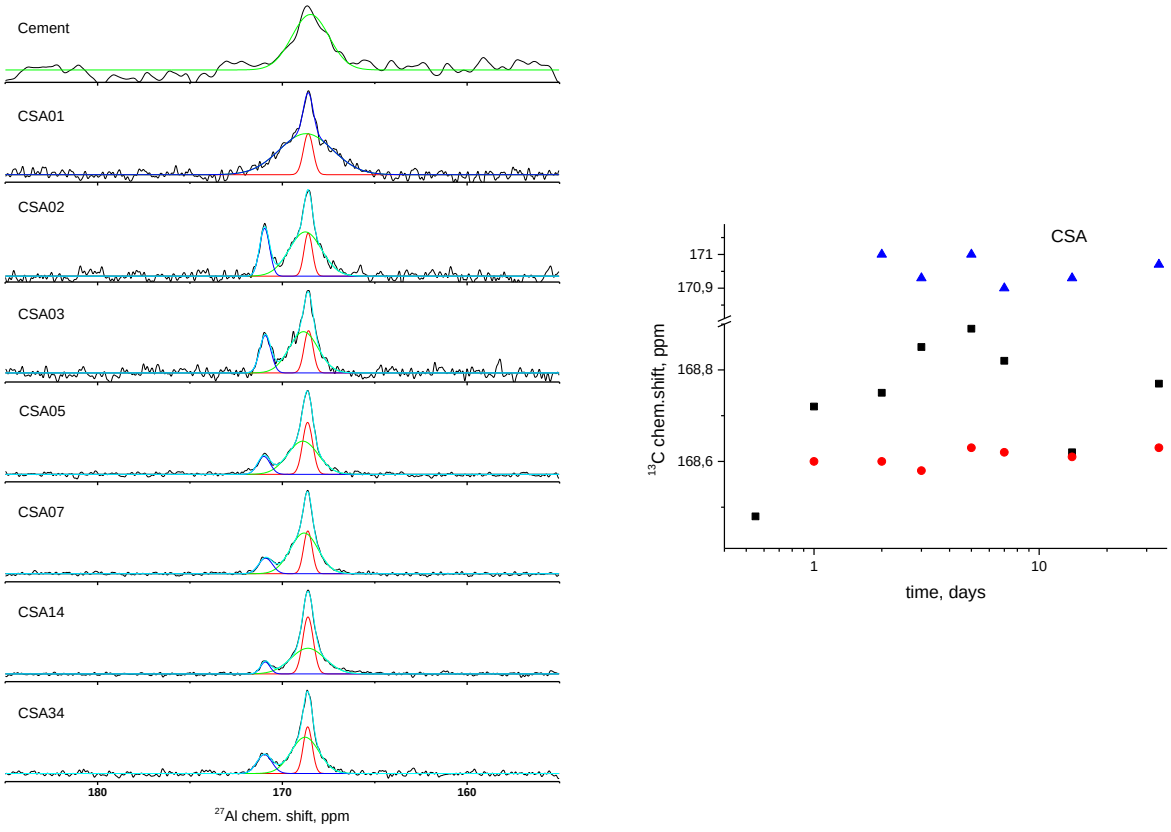
(**d**)

Figure S1. ^{13}C NMR spectra of the anhydrated Portland-limestone cement and cement paste samples without additives (**C**) (**a**) and the chemical shift of spectra components (**b**) at the different hydration time. Deconvolution of C07 spectra per three (**c**) and two (**d**) components.



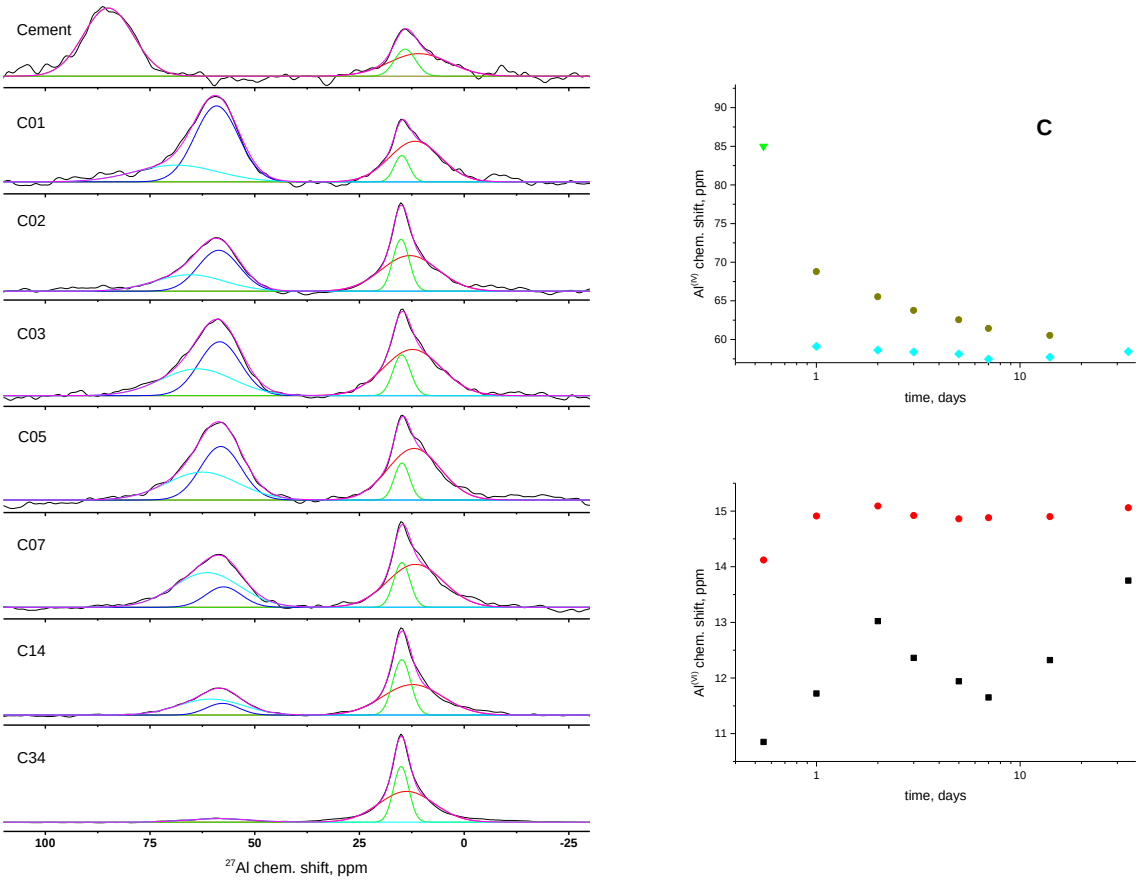
(**a**) (**b**)

Figure S2. ^{13}C NMR spectra of the anhydrated Portland-limestone cement and cement paste samples with Acetic Acid (**CAA**) (**a**) and the chemical shift of spectra components (**b**) at the different hydration time.



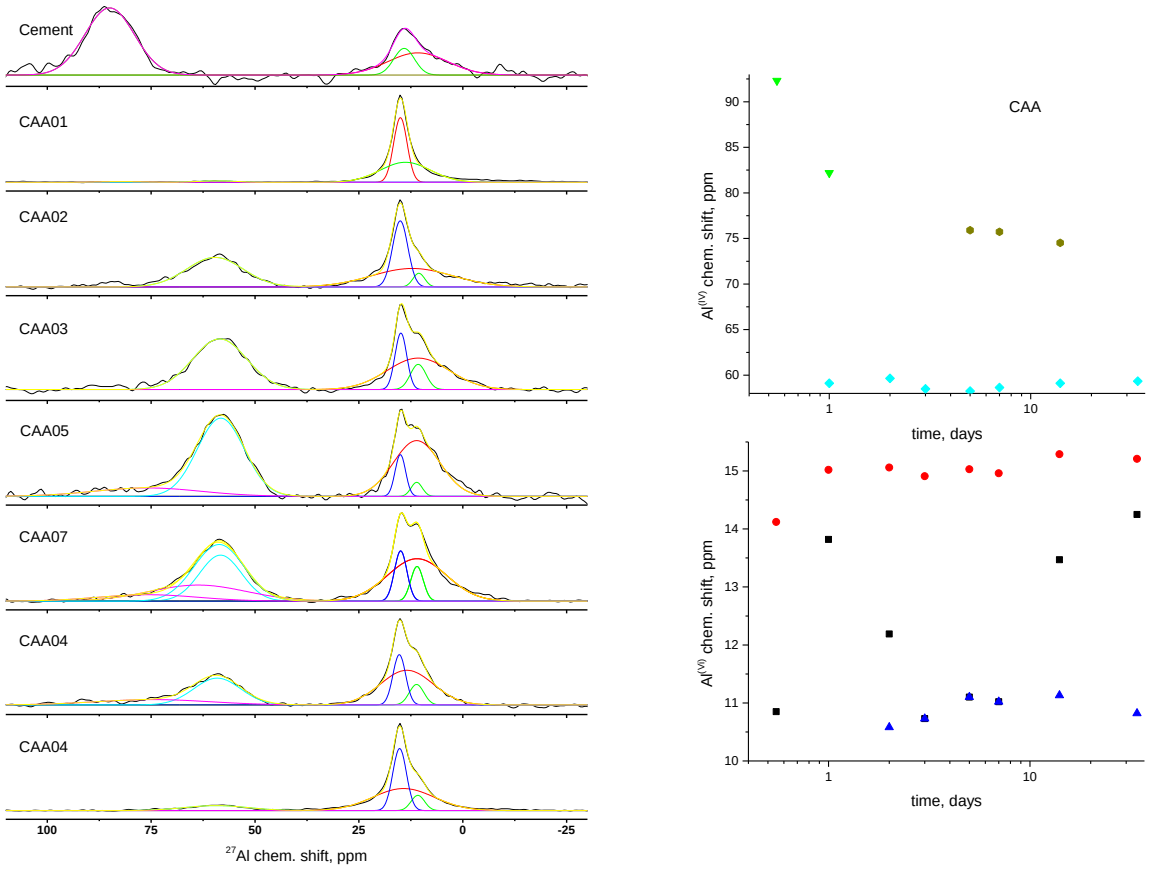
(**a**) (**b**)

Figure S3. ^{13}C NMR spectra of the anhydrated Portland-limestone cement and cement paste samples with Sodium Acetate (**CSA**) (**a**) and the chemical shift of spectra components (**b**) at the different hydration time.



(**a**) (**b**)

Figure S4. ^{27}Al NMR spectra of the anhydrated Portland-limestone cement and cement paste sample without additives (**C**) (**a**) and the chemical shift of spectra components (**b**) at the different hydration time.



(**a**) (**b**)

Figure S5. ^{27}Al NMR spectra of the anhydrated Portland-limestone cement and cement paste samples with Acetic Acid (**CAA**) (**a**) and the chemical shift of spectra components (**b**) at the different hydration time.

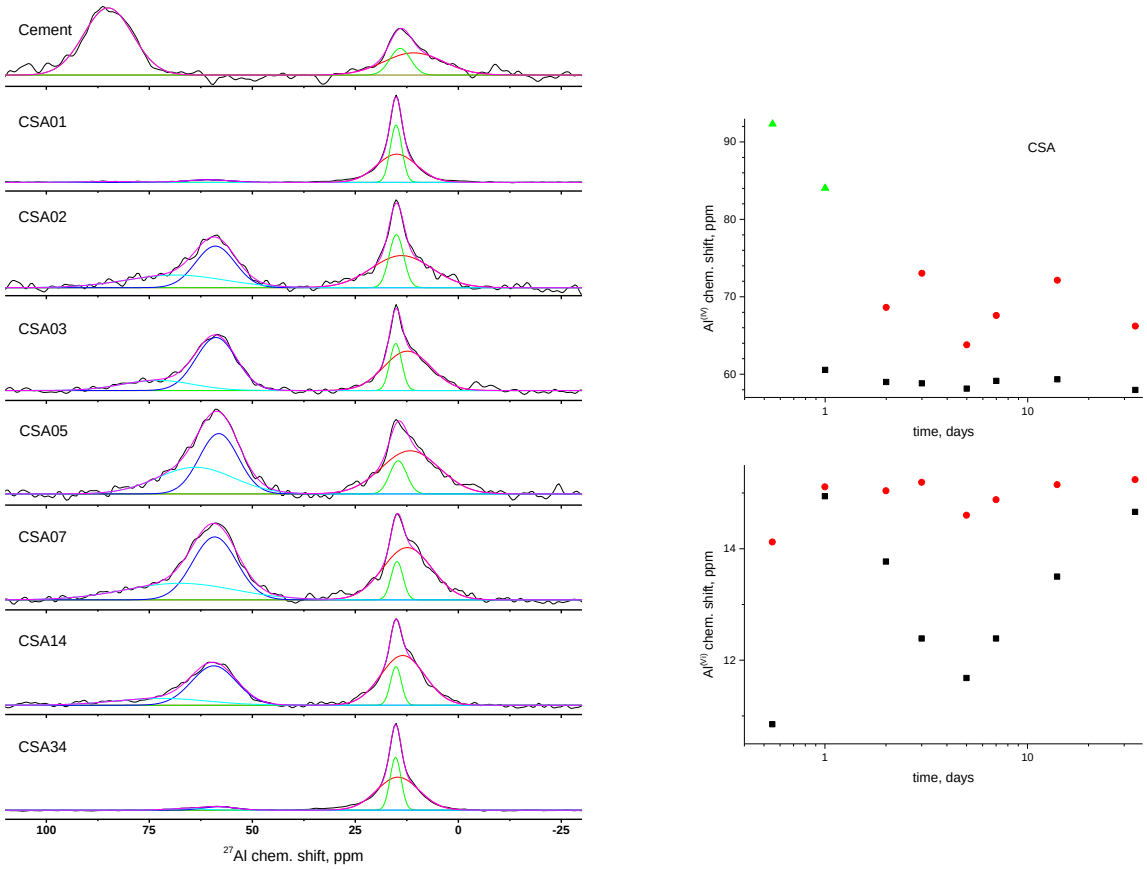


Figure S6. ^{27}Al NMR spectra of the anhydrated Portland-limestone cement and cement paste samples with Sodium Acetate (**CSA**) (**a**) and the chemical shift of spectra components (**b**) at the different hydration time.

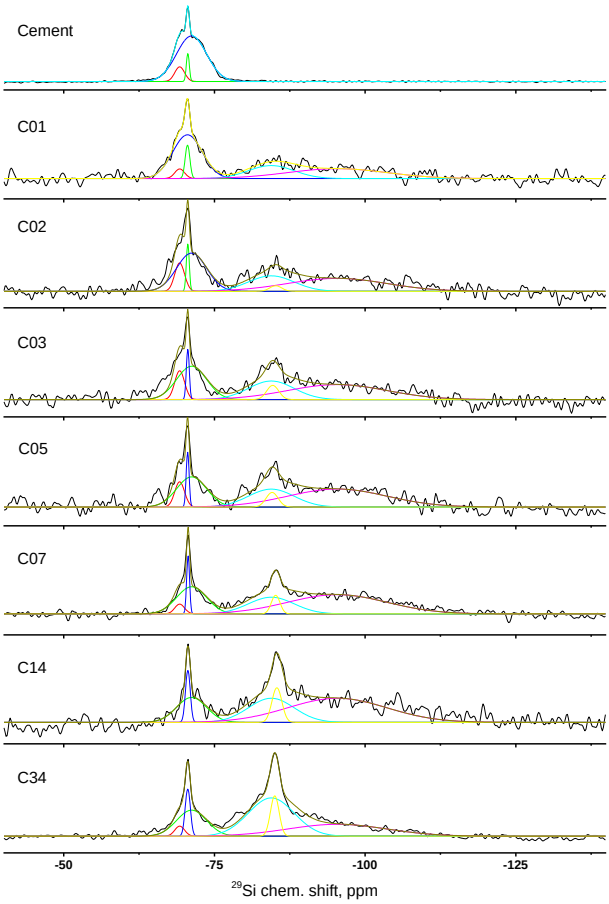


Figure S7. ^{29}Si NMR spectra of the anhydrated Portland-limestone cement and cement paste sample without additives (**C**).

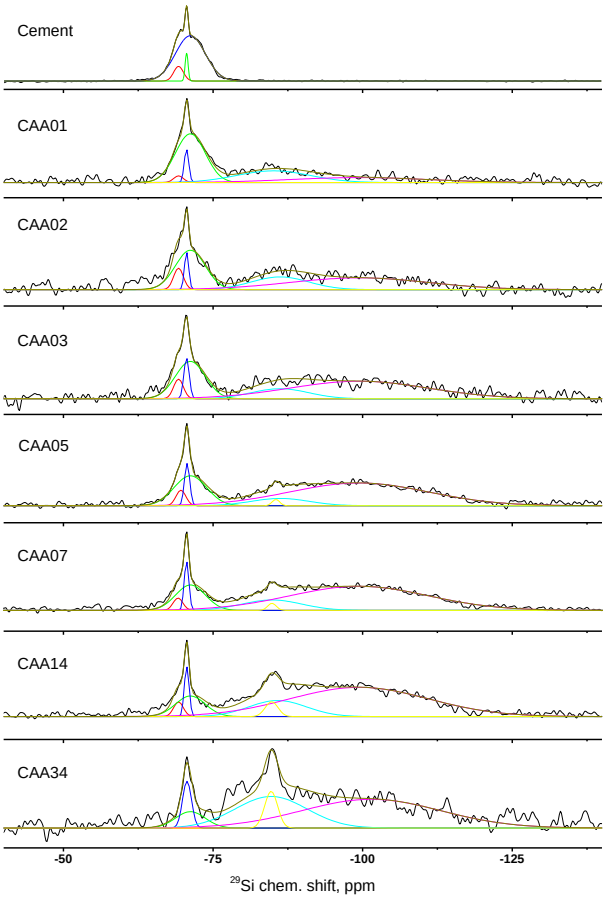


Figure S8. ^{29}Si NMR spectra of the anhydrated Portland-limestone cement and cement paste samples with Acetic Acid (**CAA**).

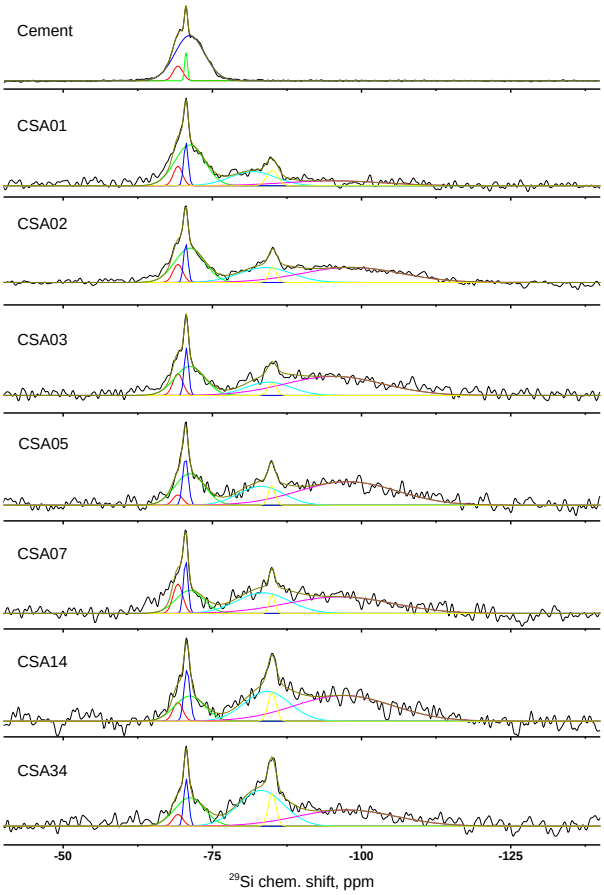


Figure S9. ^{29}Si NMR spectra of the anhydrated Portland-limestone cement and cement paste samples with Sodium Acetate (**CSA**).