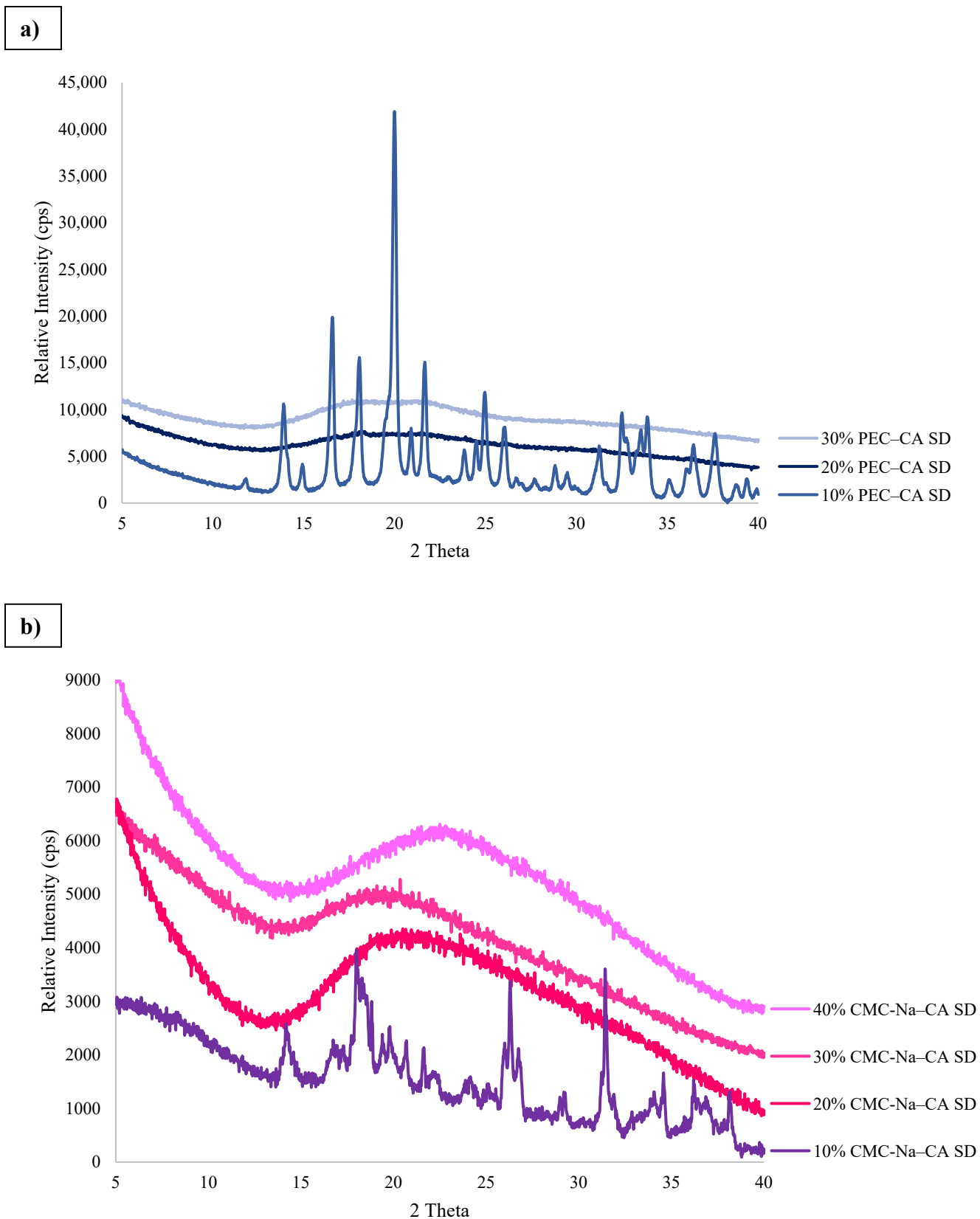
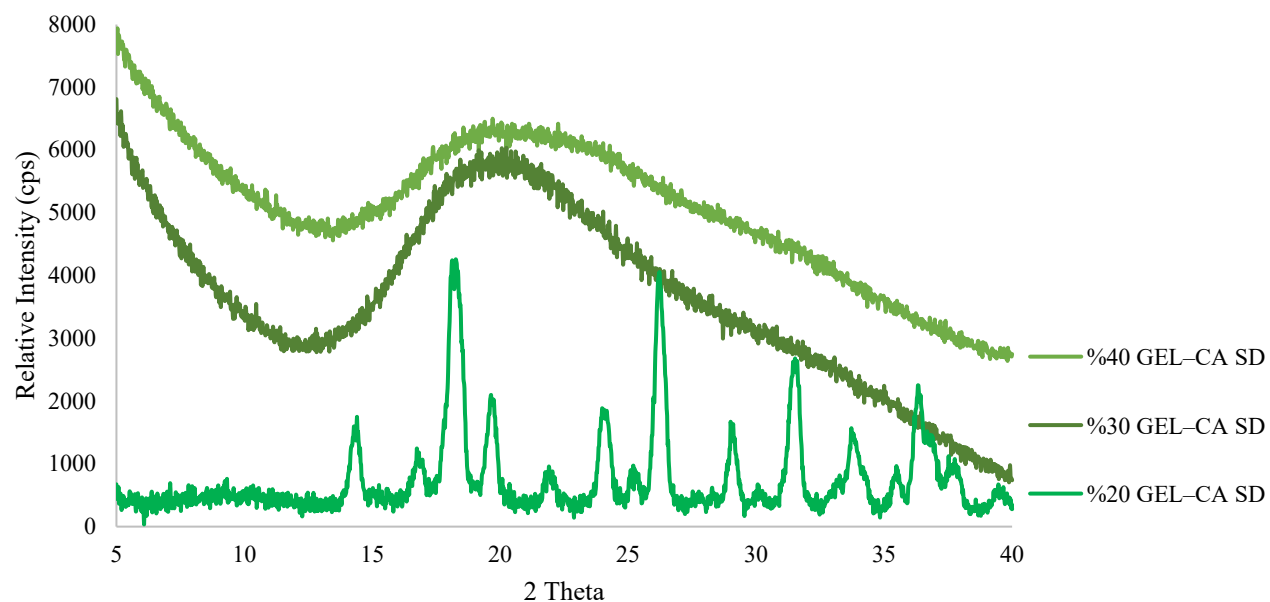
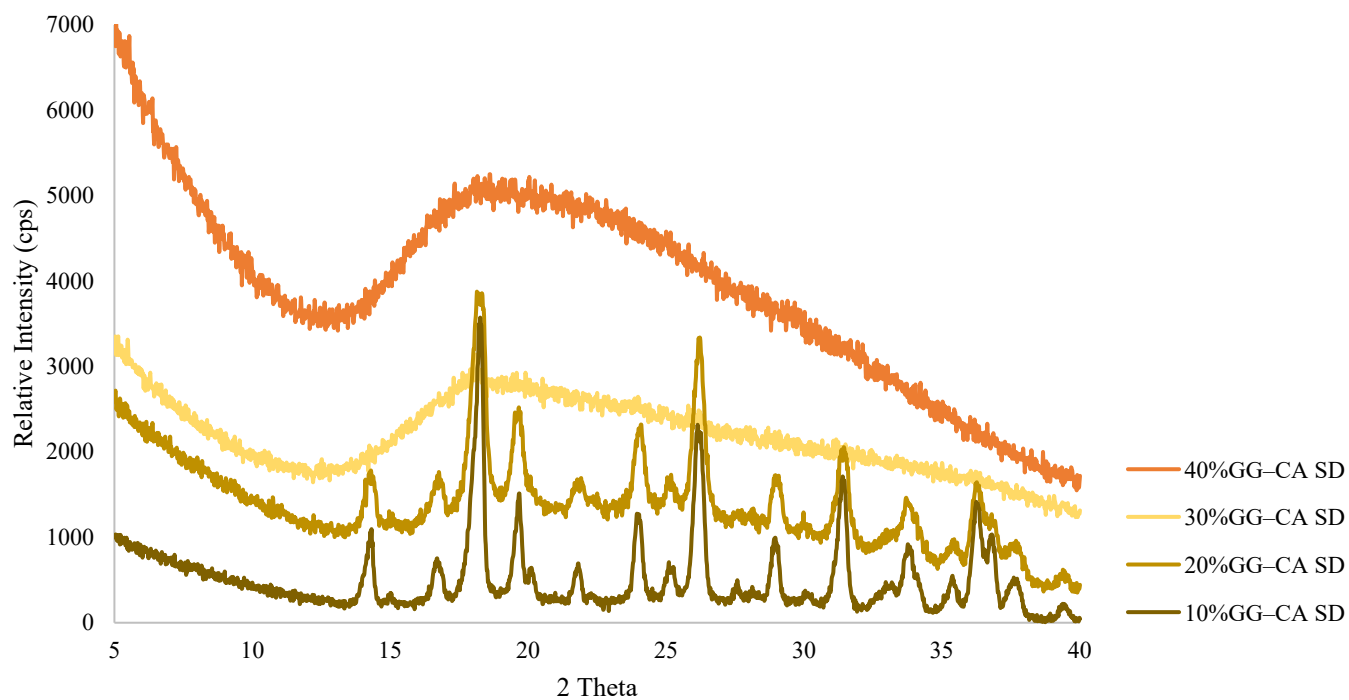




c)



d)



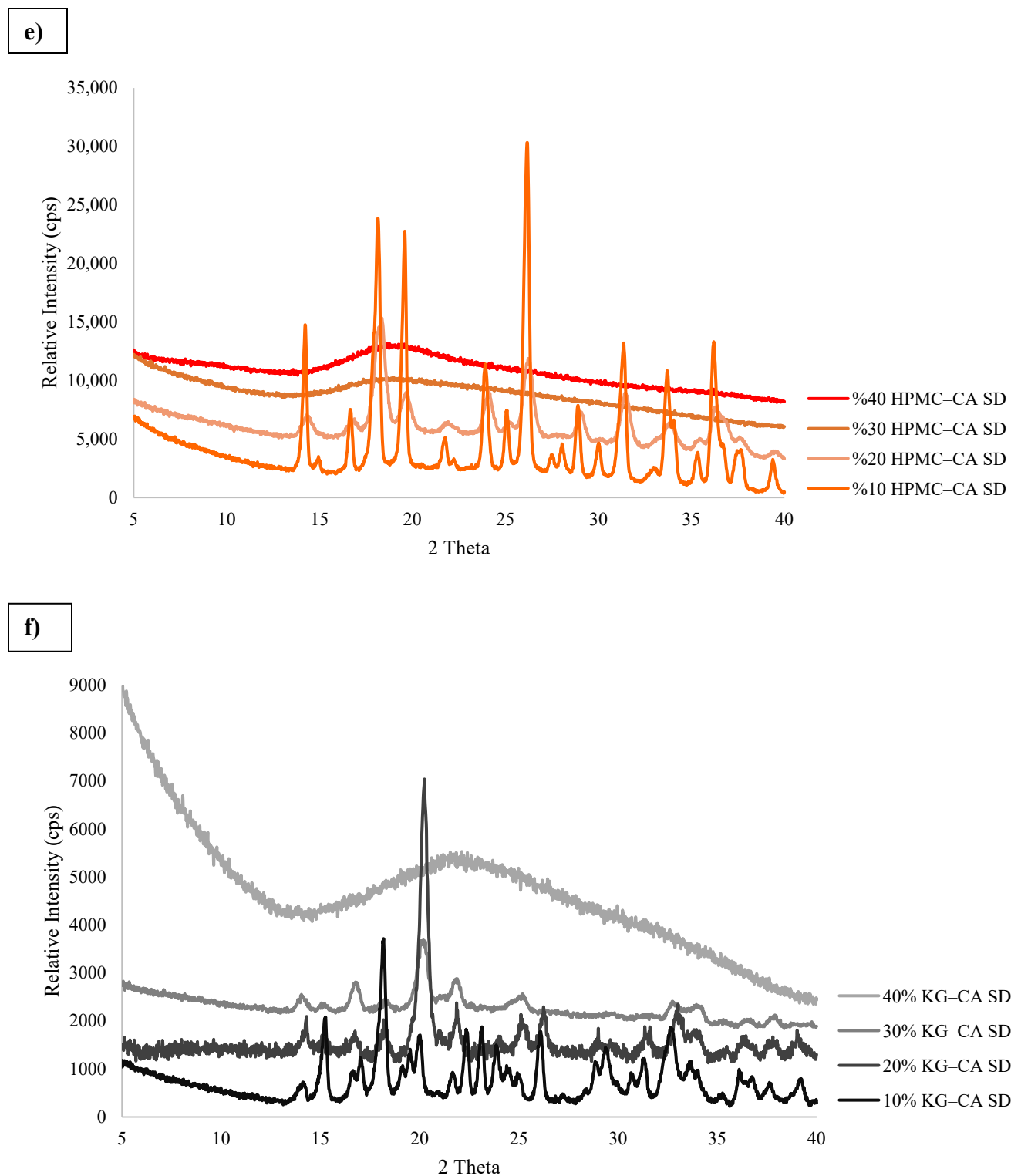
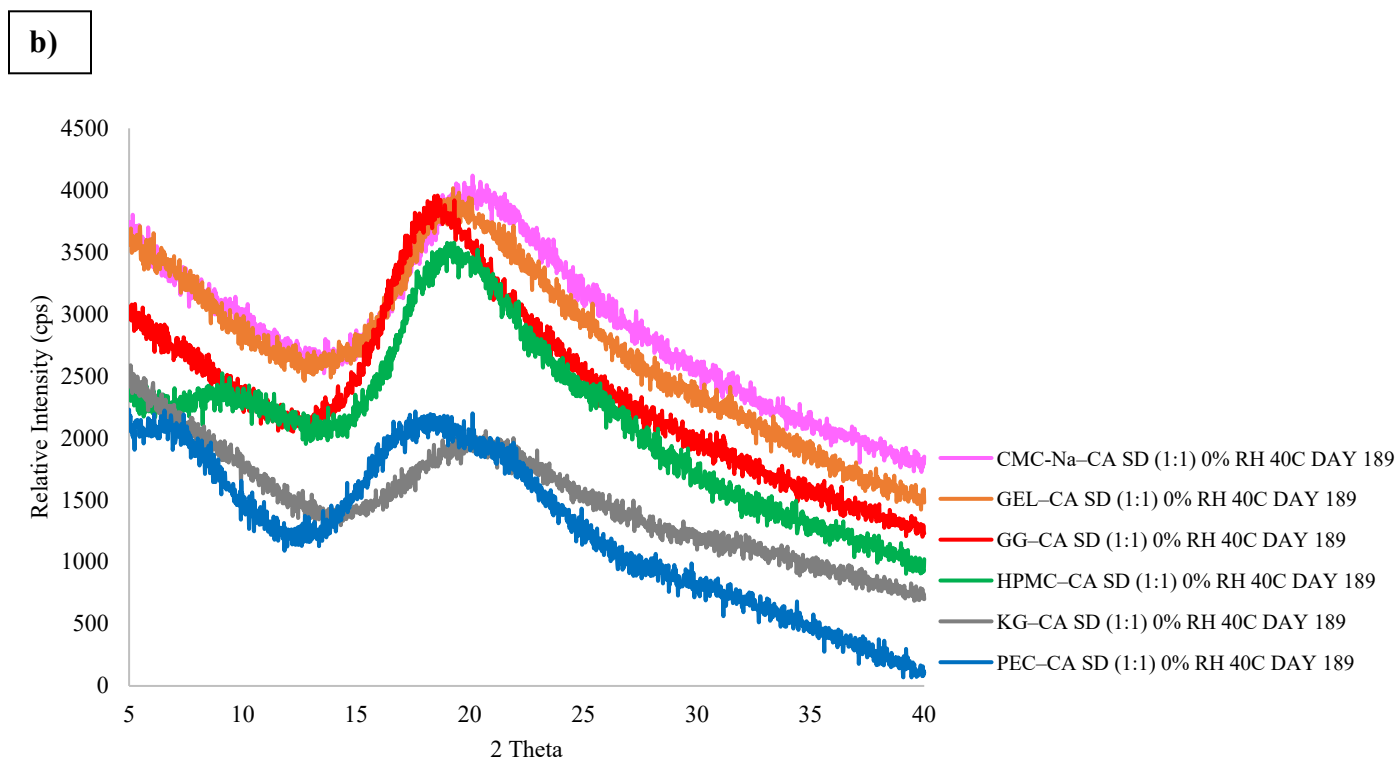
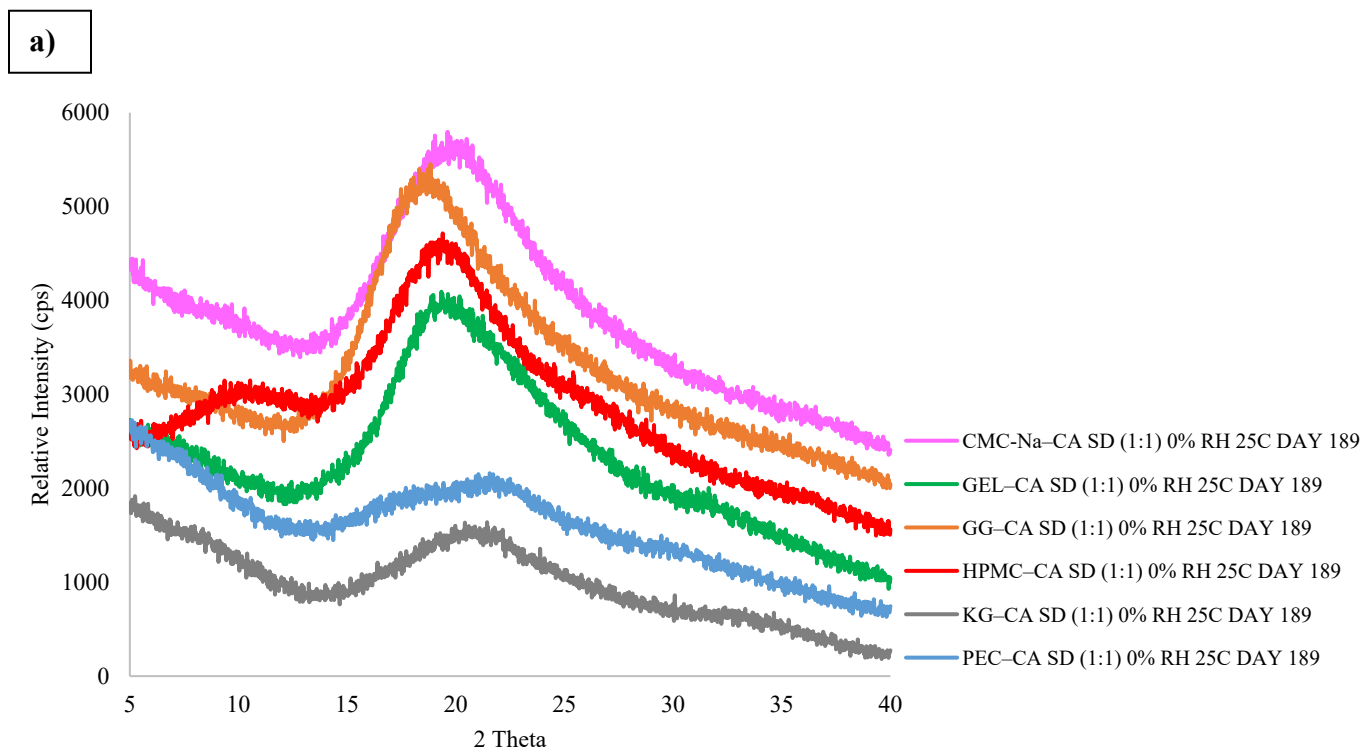


Figure S1: PXRD patterns of various ratios of CA to polymer: a) CA – PEC solid dispersion, b) CA – CMC-Na solid dispersion, c) CA – GEL solid dispersion, d) CA – GG solid dispersion, e) CA – HPMC solid dispersion, f) CA – KG solid dispersion.



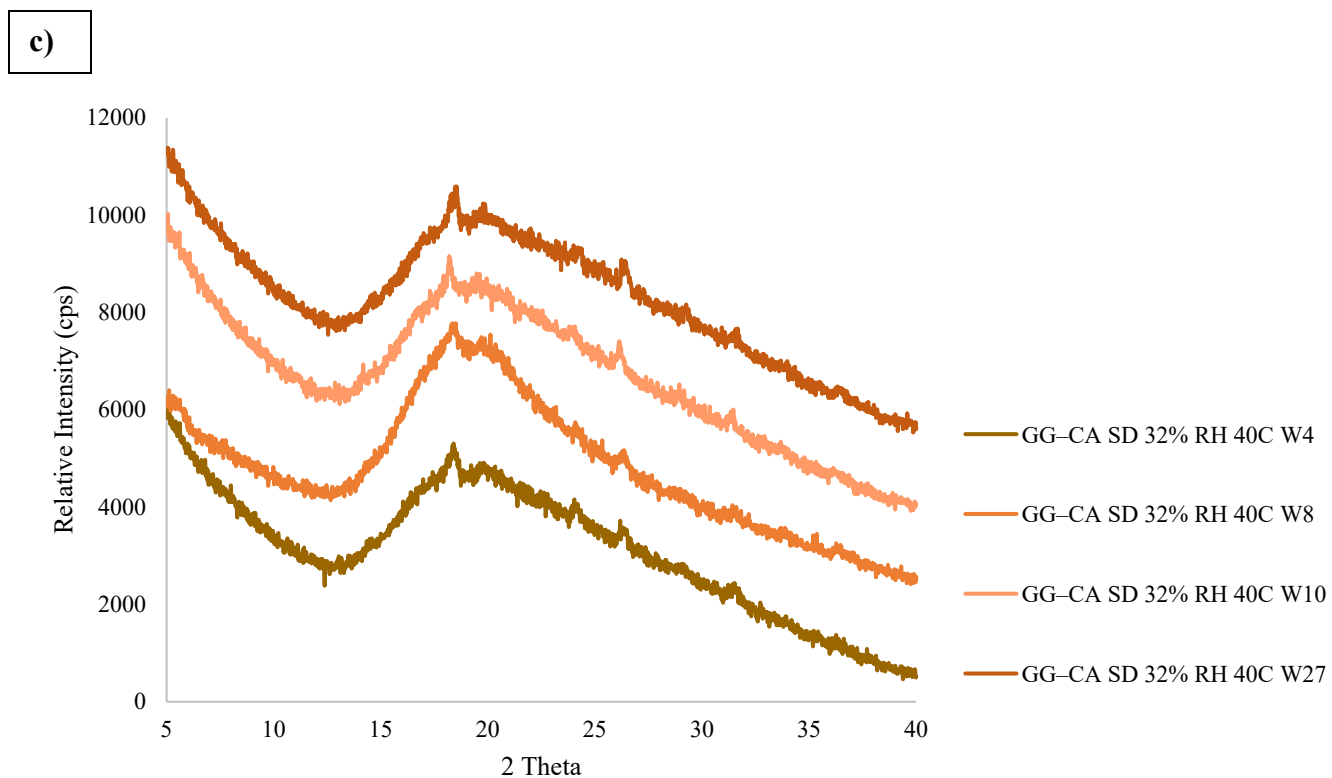
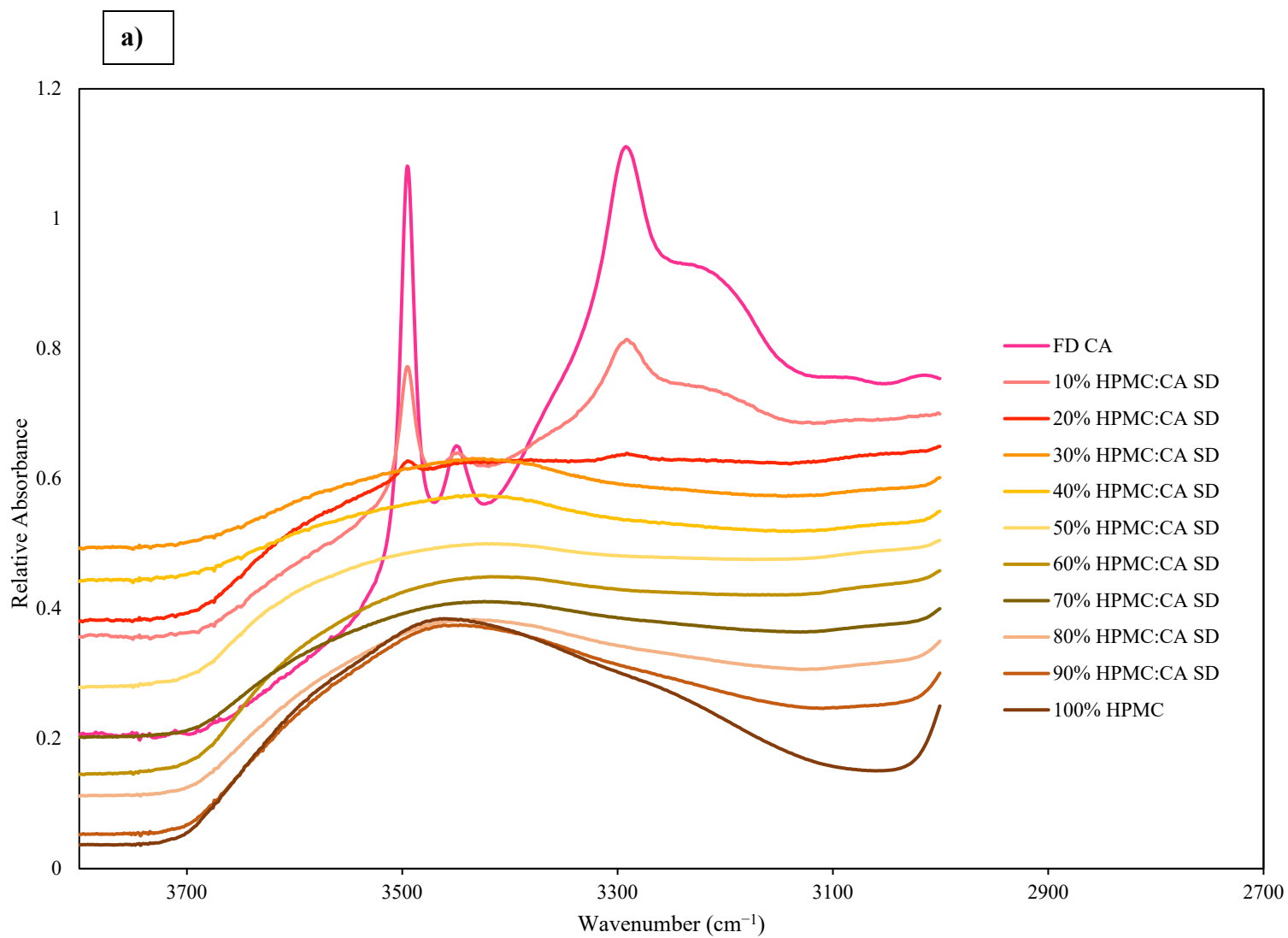
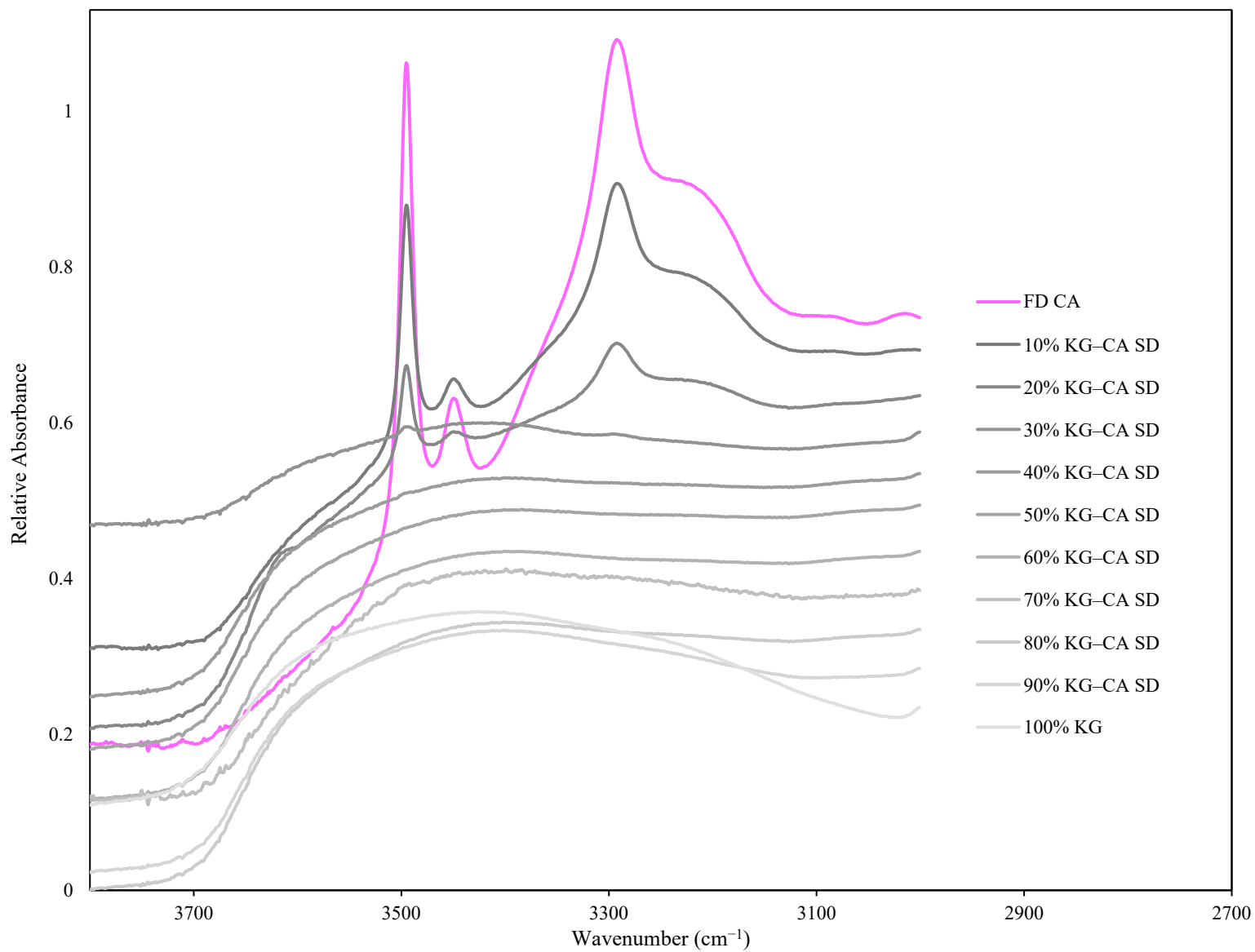


Figure S2: PXRD patterns of: a) 1:1 CA – polymer solid dispersions at 0% RH and 25 °C on day 189, b) 1:1 CA – polymer solid dispersions at 0% RH and 40 °C on day 189, c) 1:1 CA – GG solid dispersions.



b)


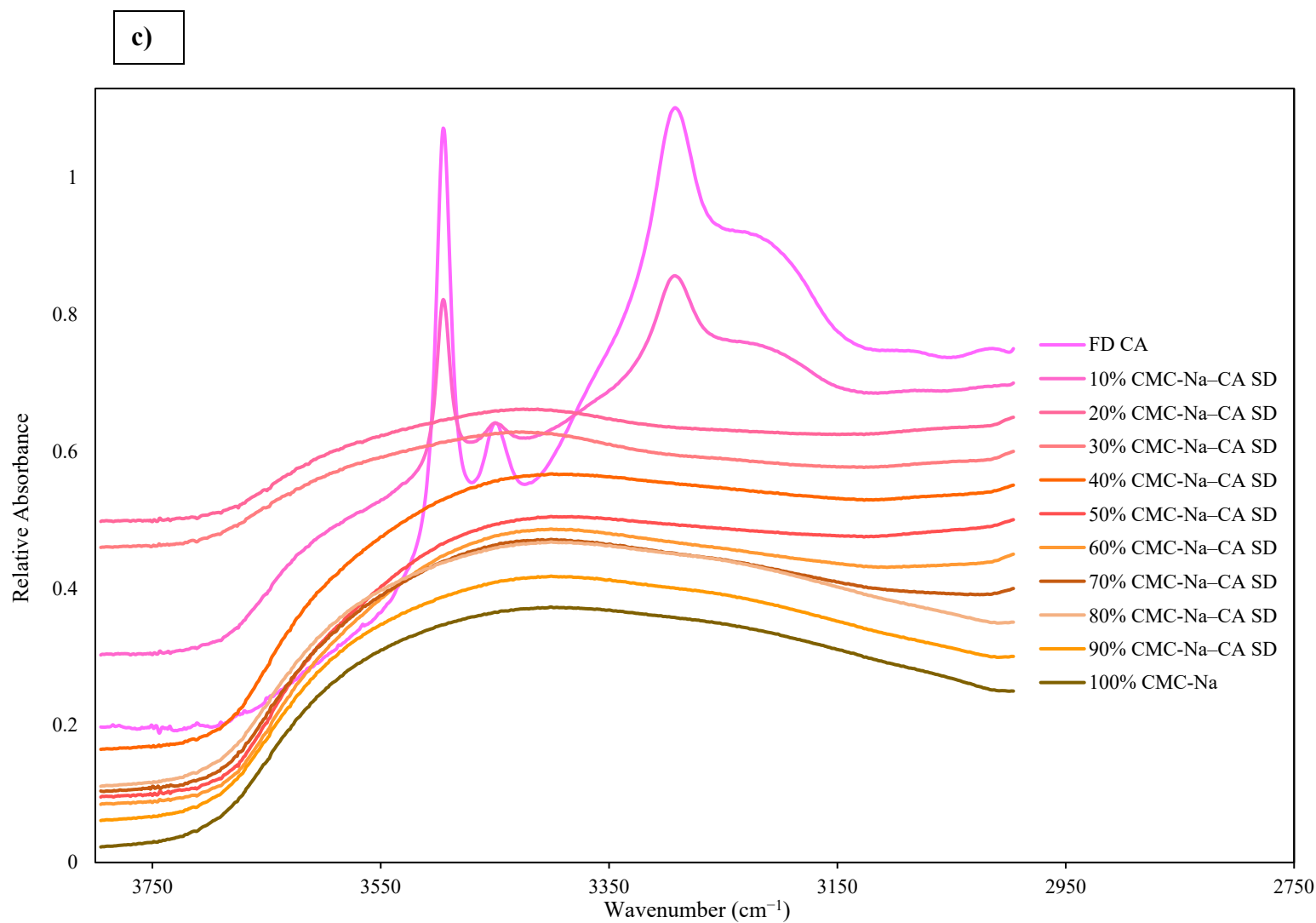
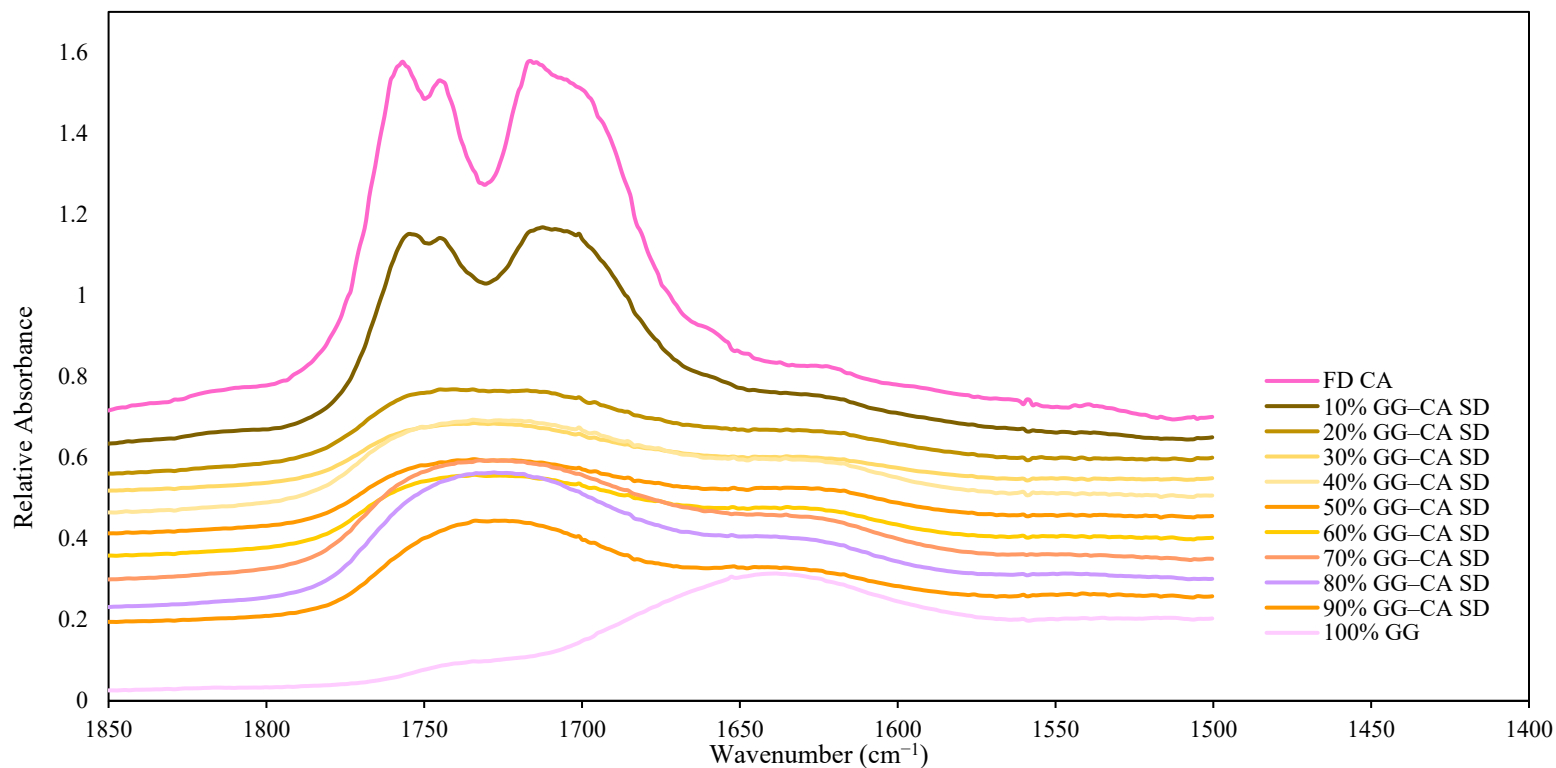
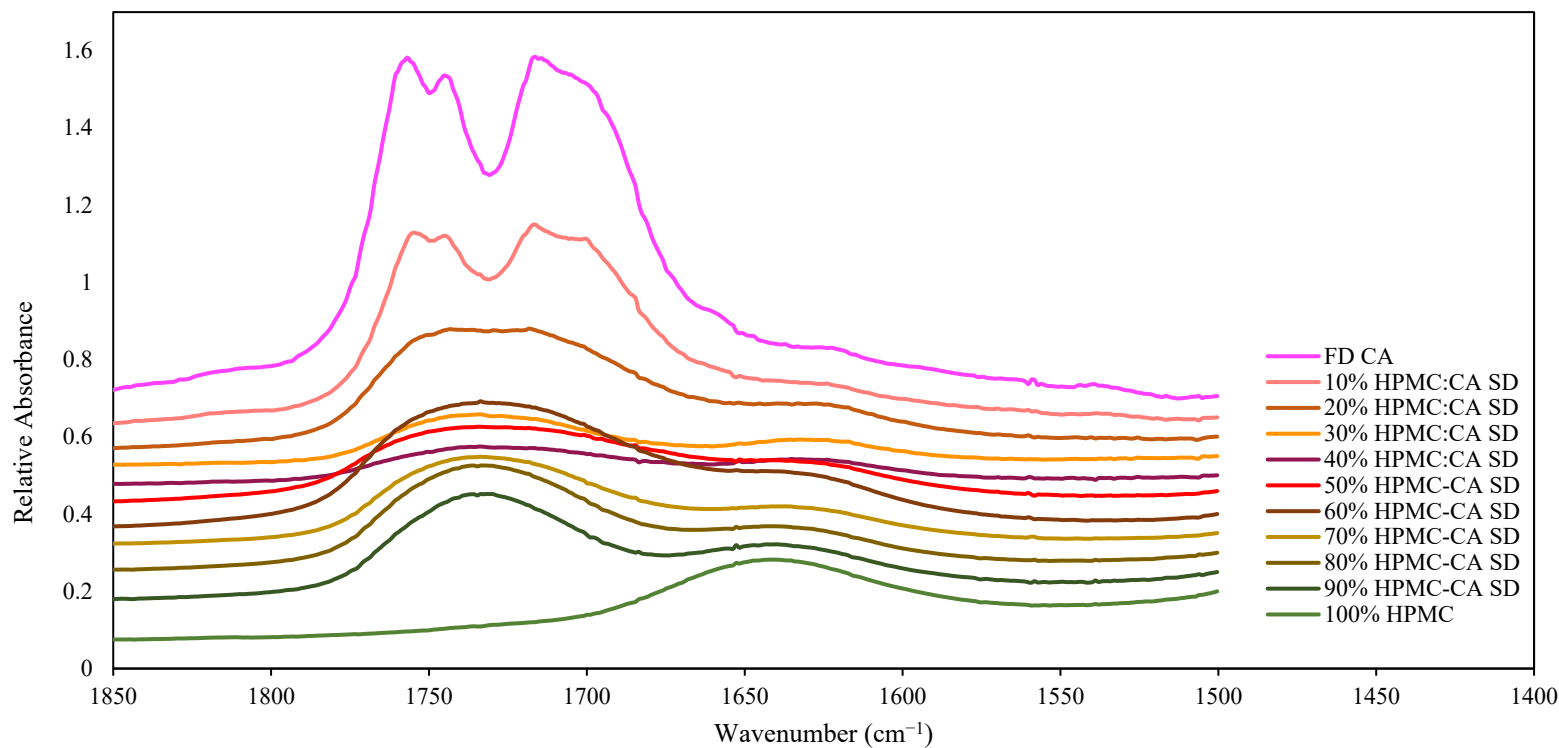
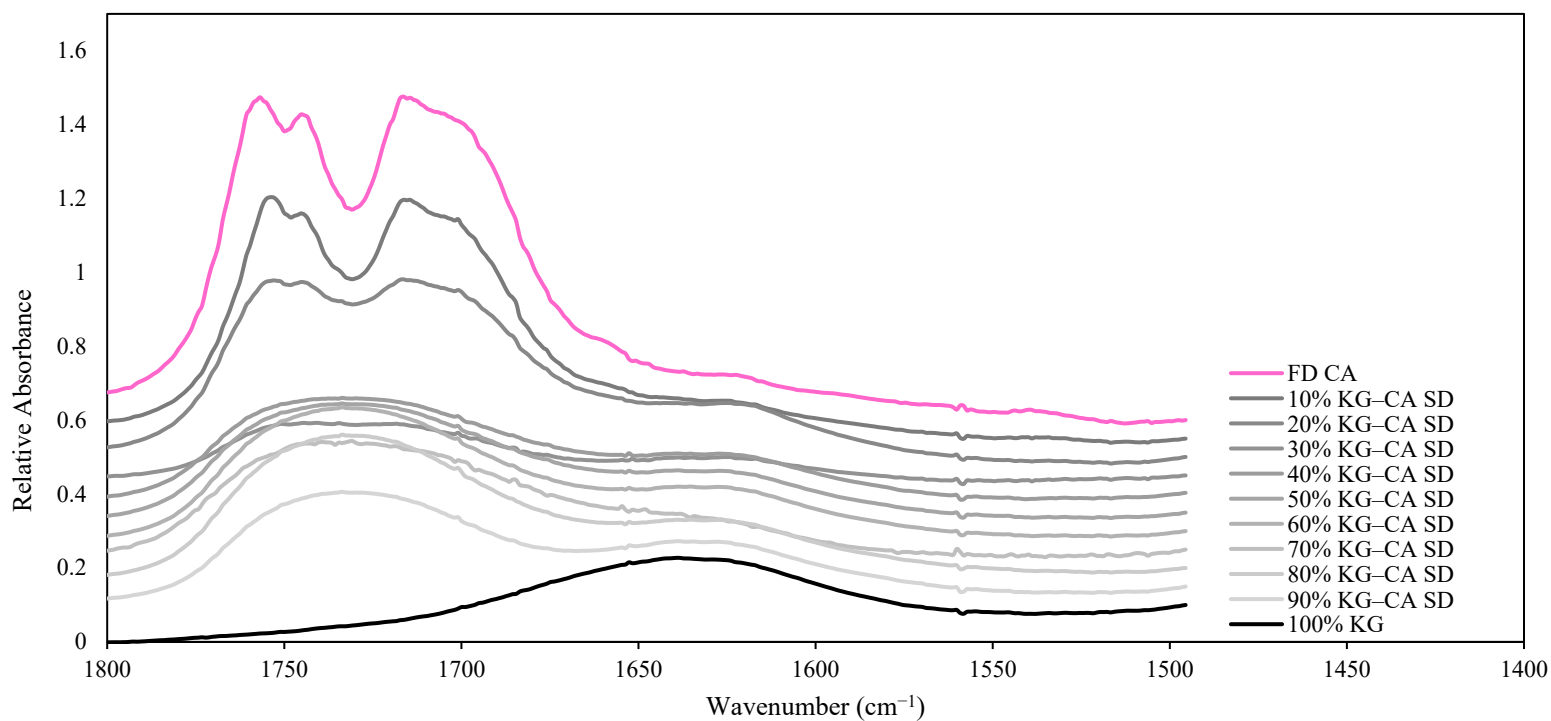


Figure S3: Mid infrared spectra of: a) CA – HMPC solid dispersions (SD), b) CA – KG solid dispersions (SD), c) CA – CMC-Na solid dispersions (SD), made with various ratios (NH/OH region is shown).

a)

b)


c)



d)

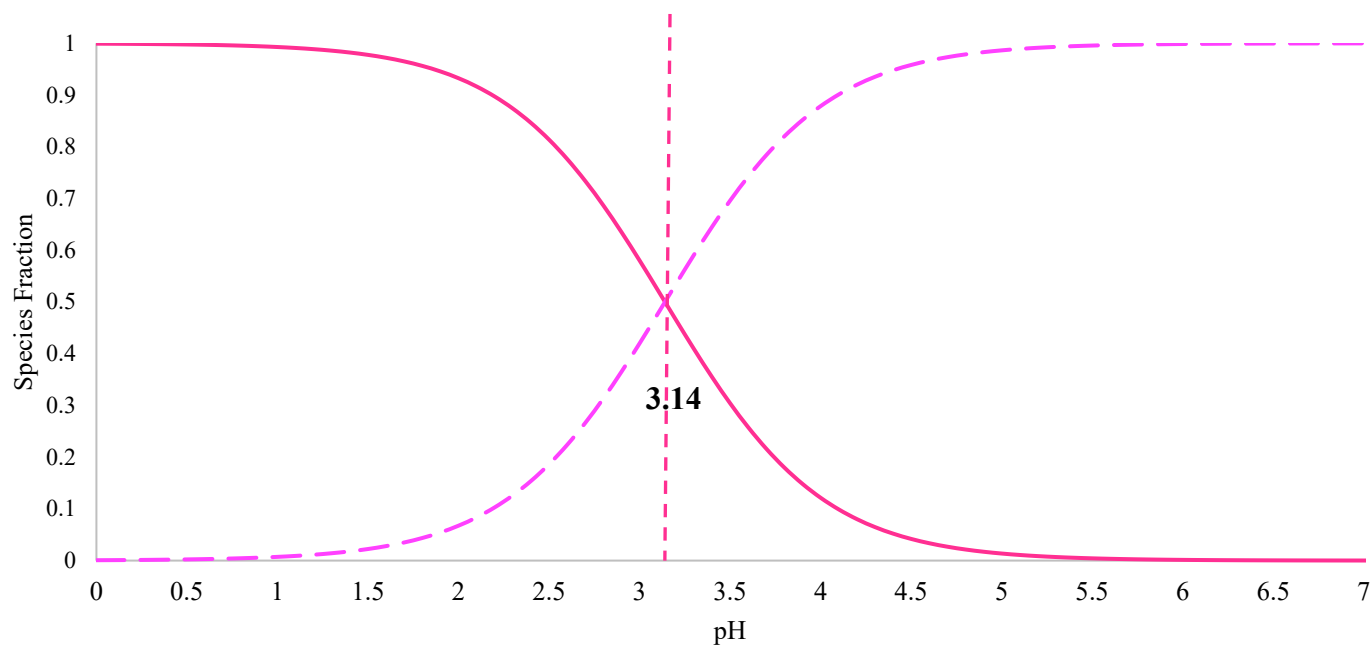
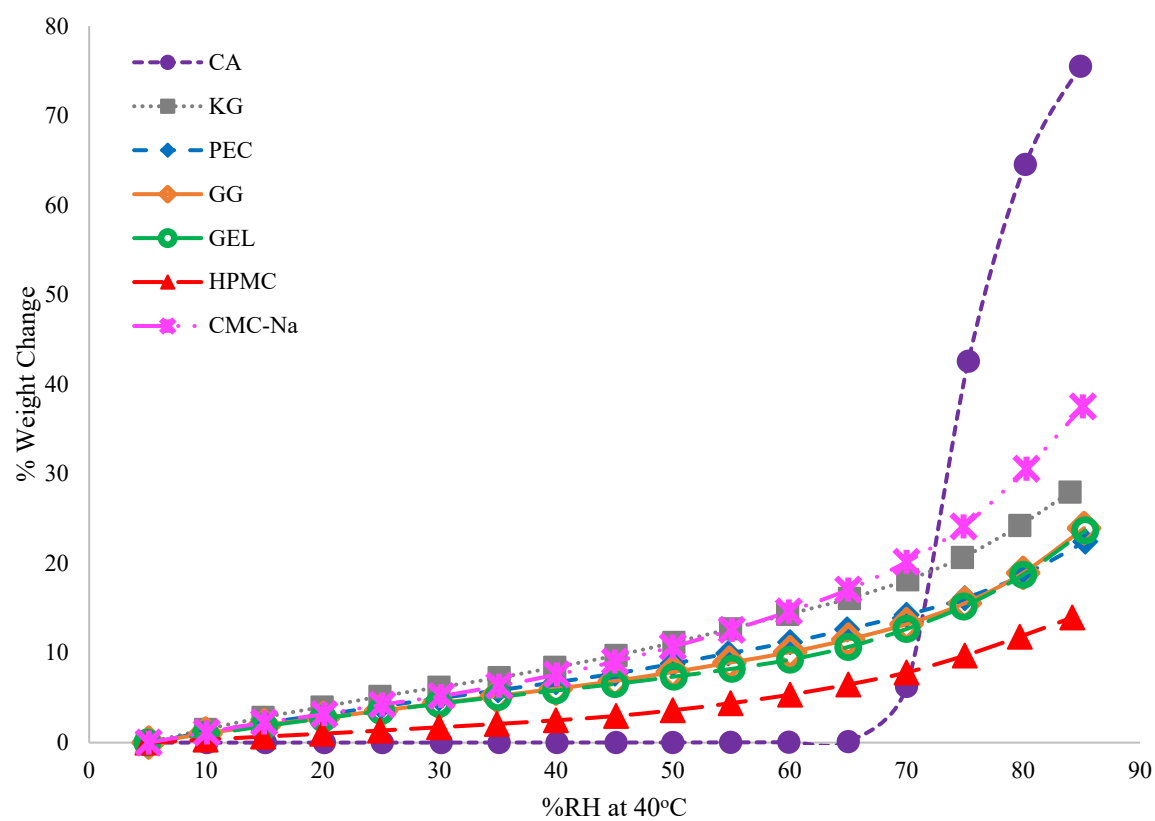


Figure S4: Mid infrared spectra of: a) CA – GG solid dispersion (SD), b) CA – HPMC solid dispersion (SD), c) CA – KG solid dispersion (SD), made with various ratios, (carbonyl region is shown), d) Speciation plot of CA.

a)

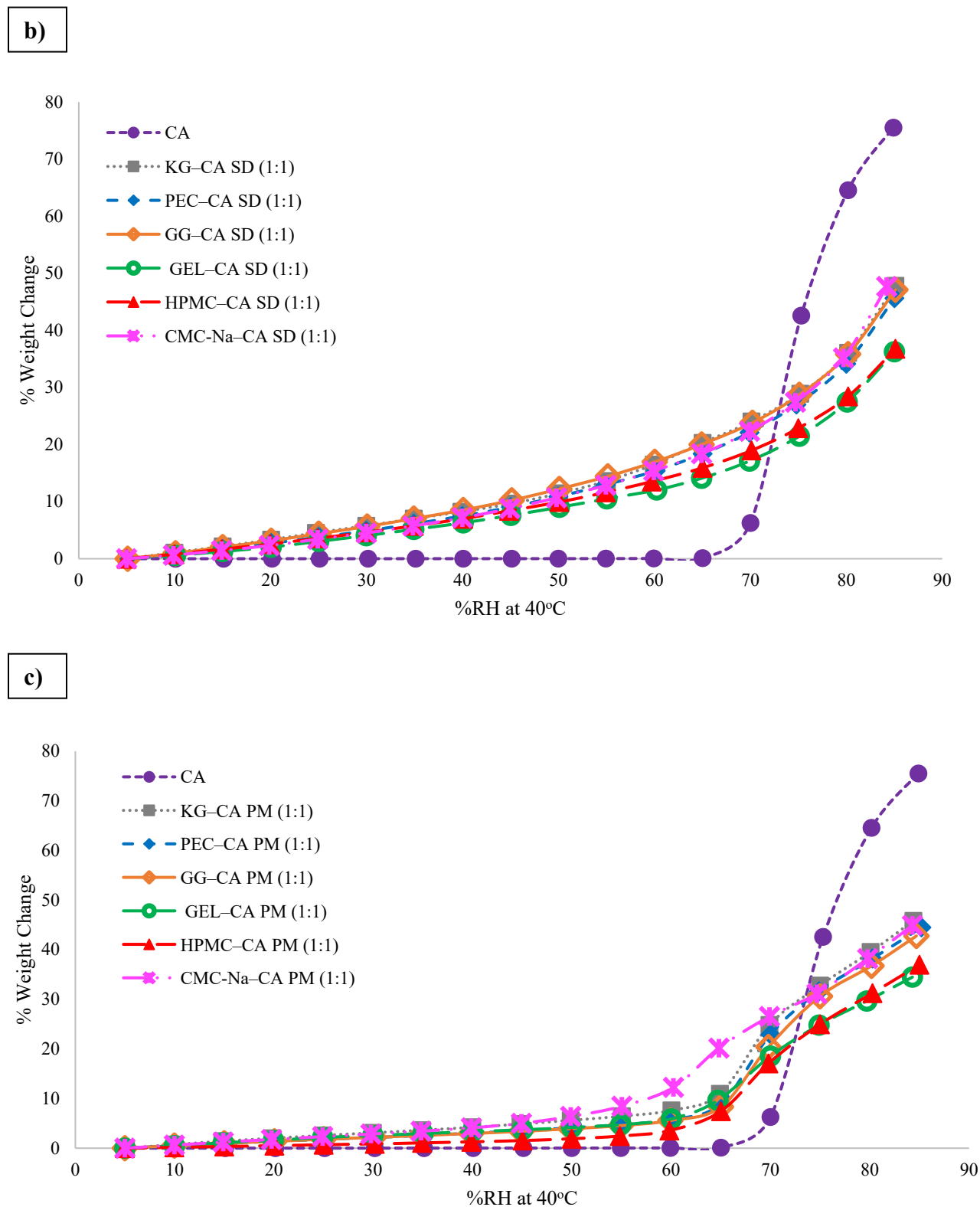
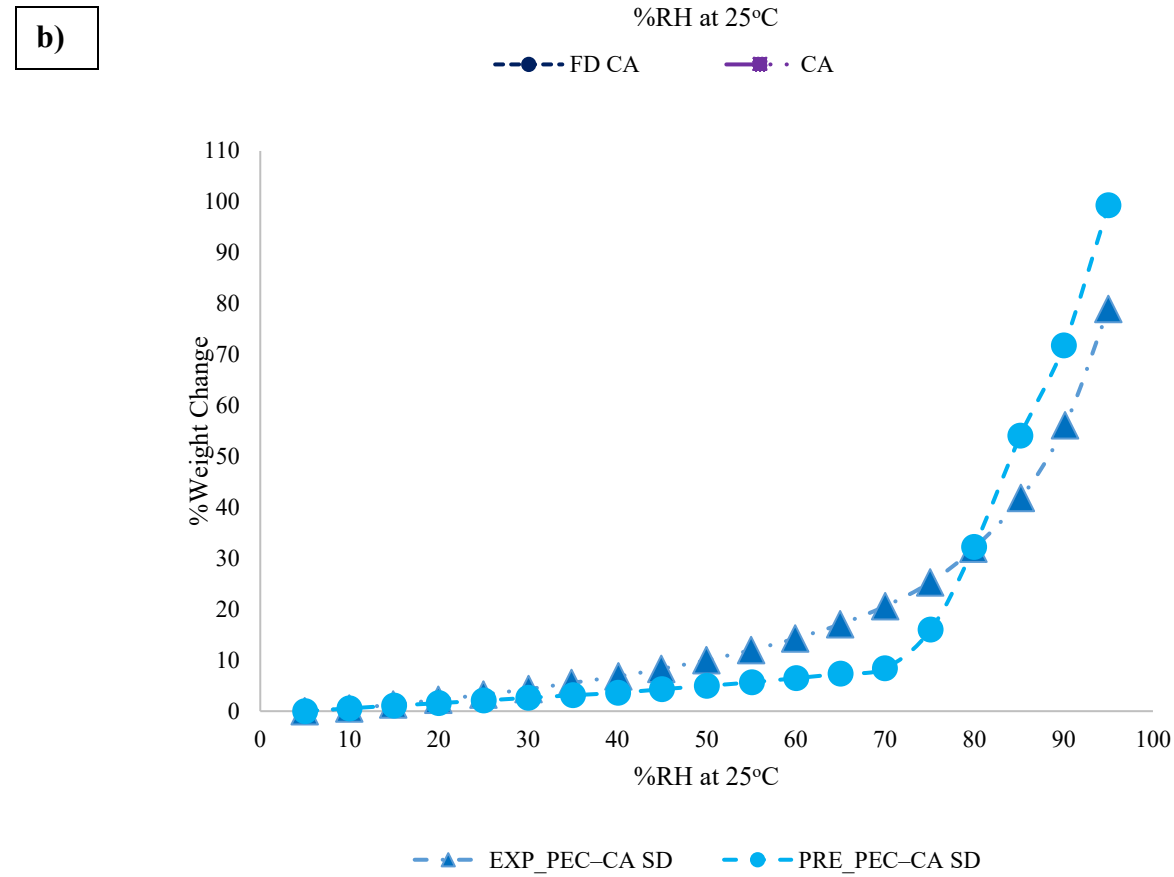
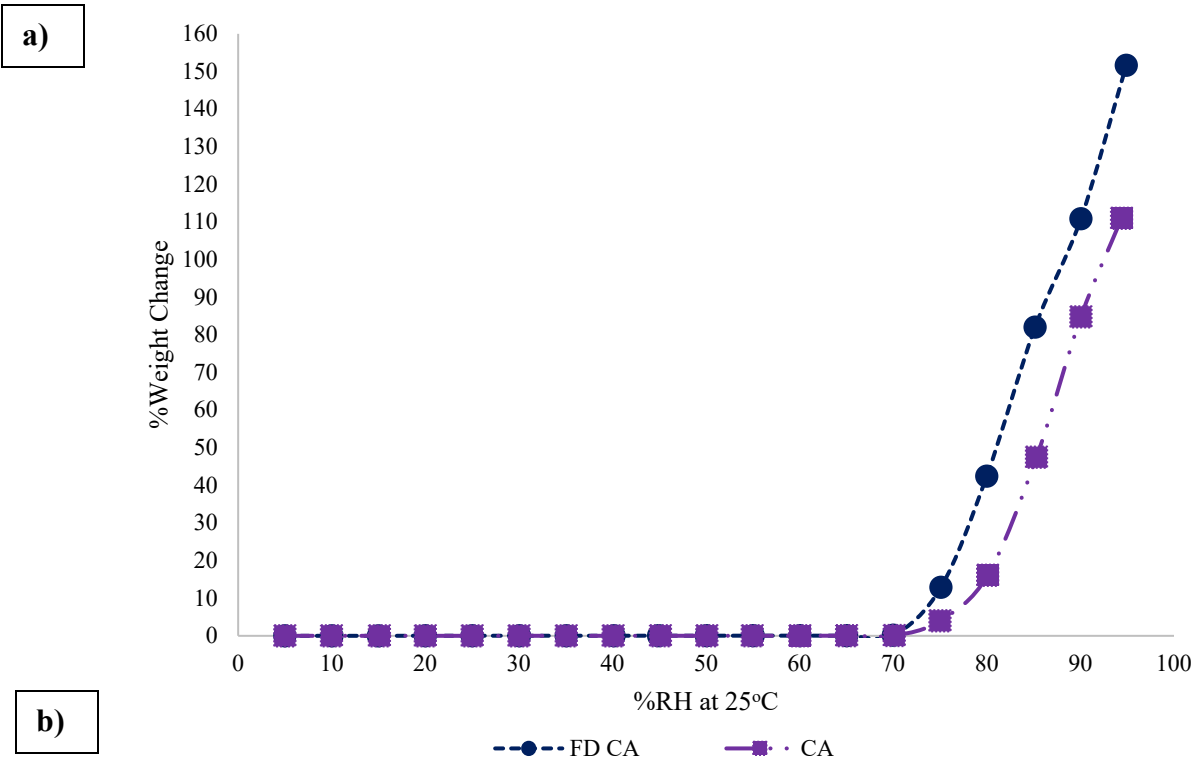
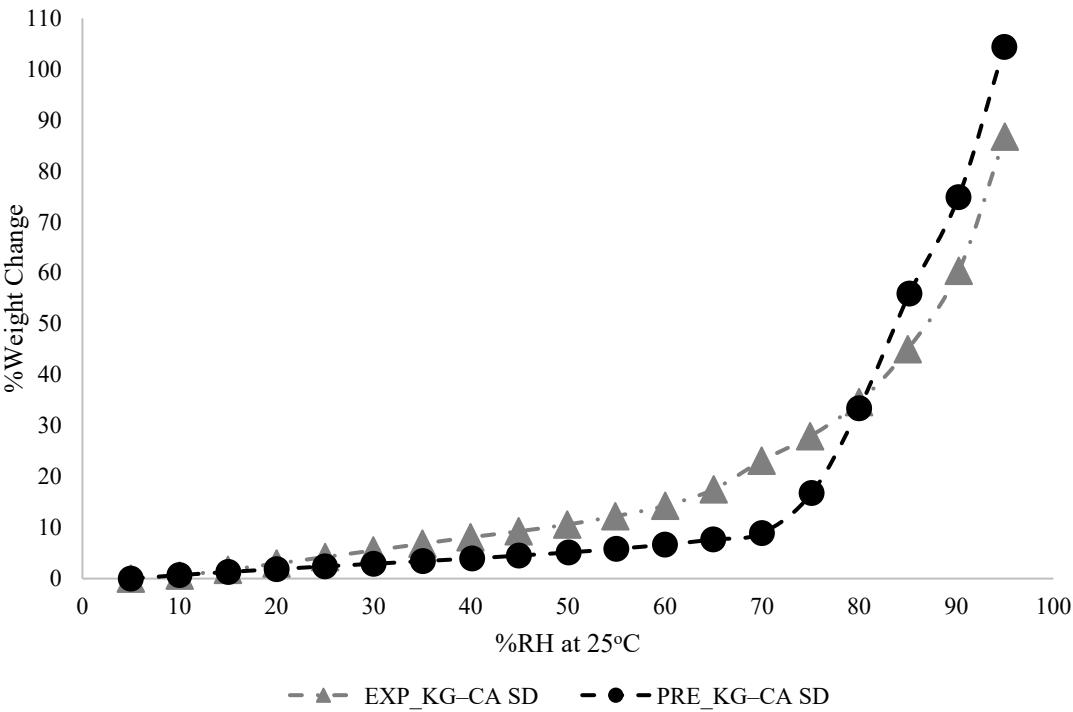


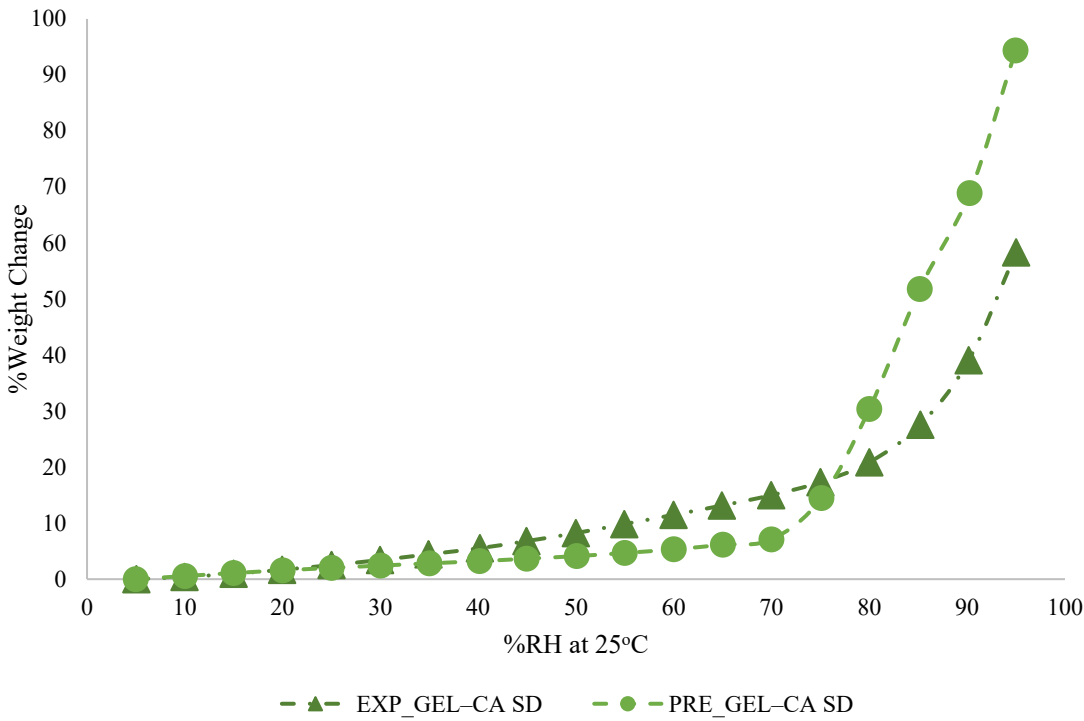
Figure S5: Moisture sorption profiles of samples at 40 °C: **(a)** CA and polymers, **(b)** 1:1 CA – polymer physical mixtures (PMs), **(c)** 1:1 CA – polymer solid dispersions (SDs).

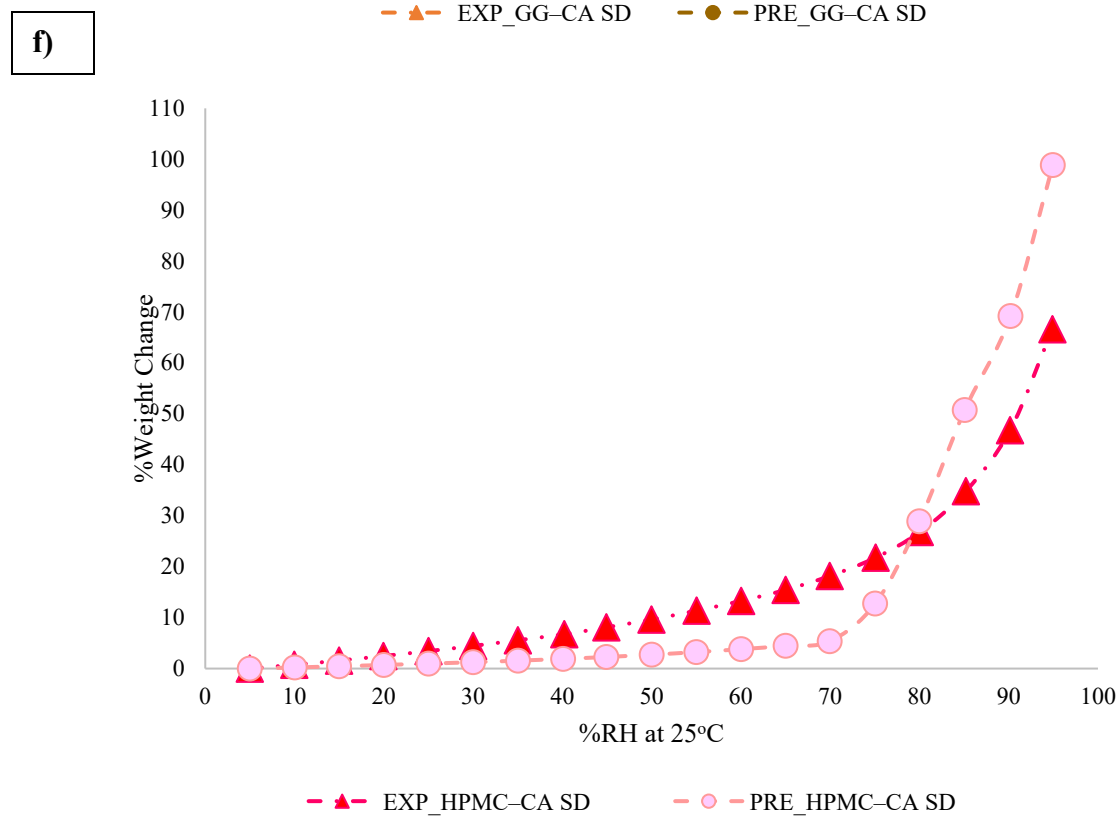
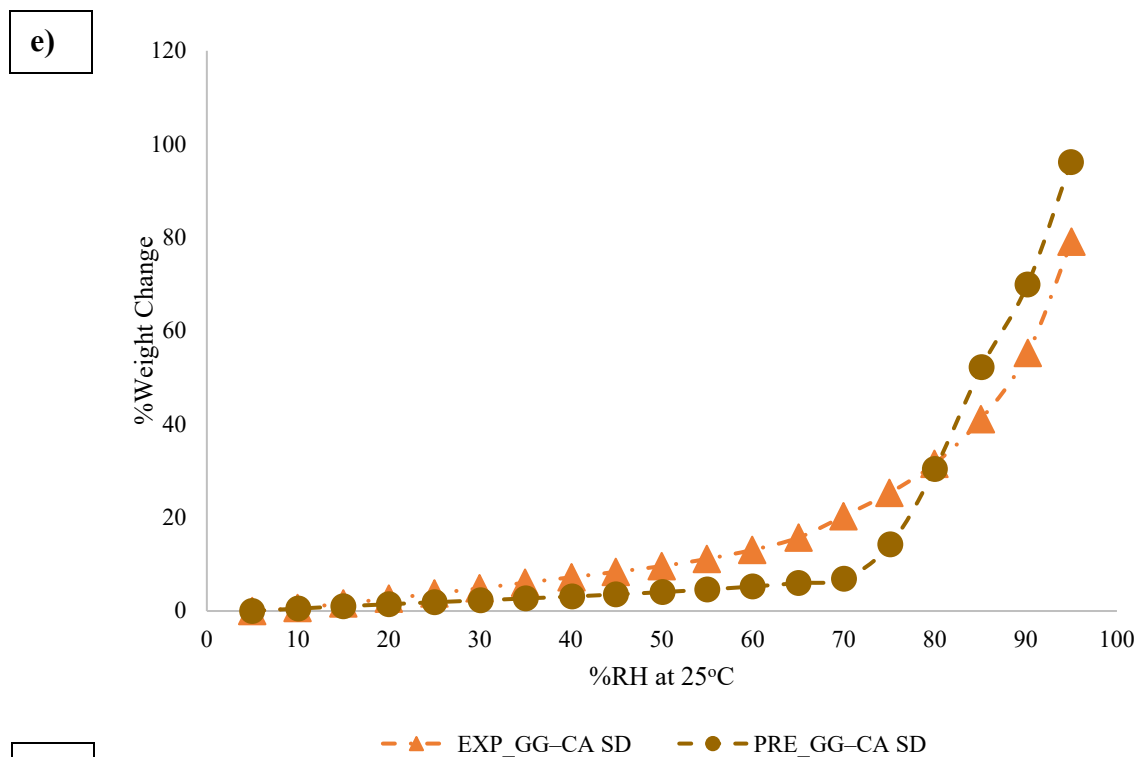


c)



d)





g)

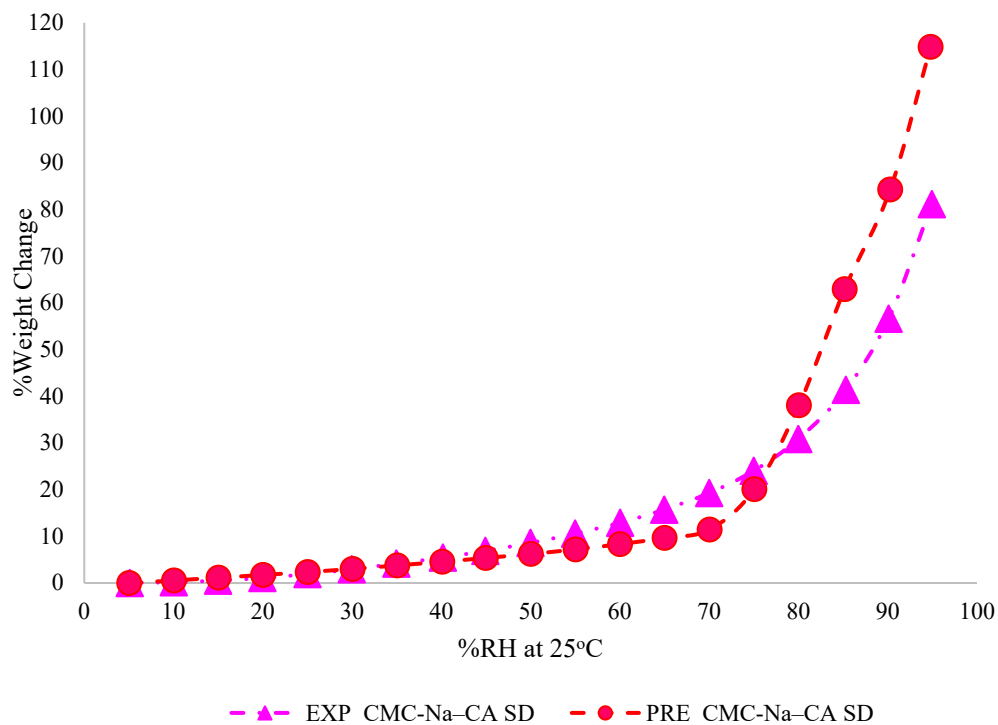
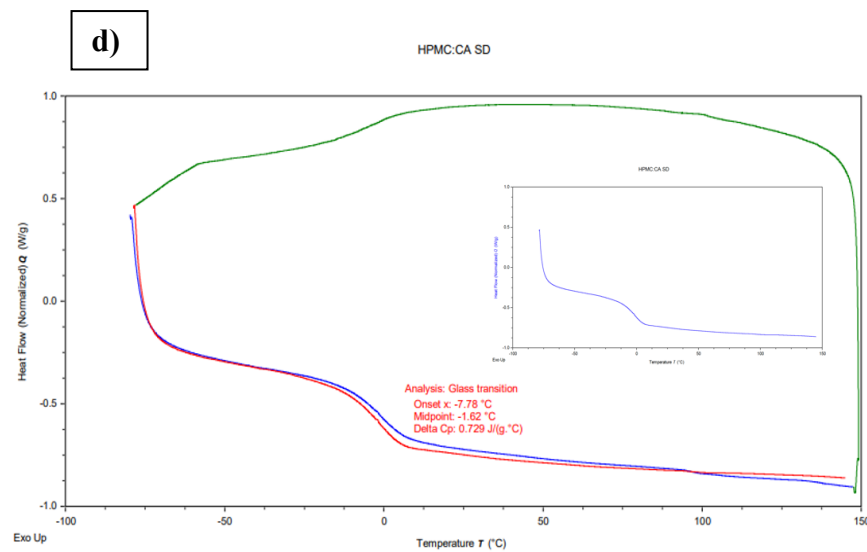
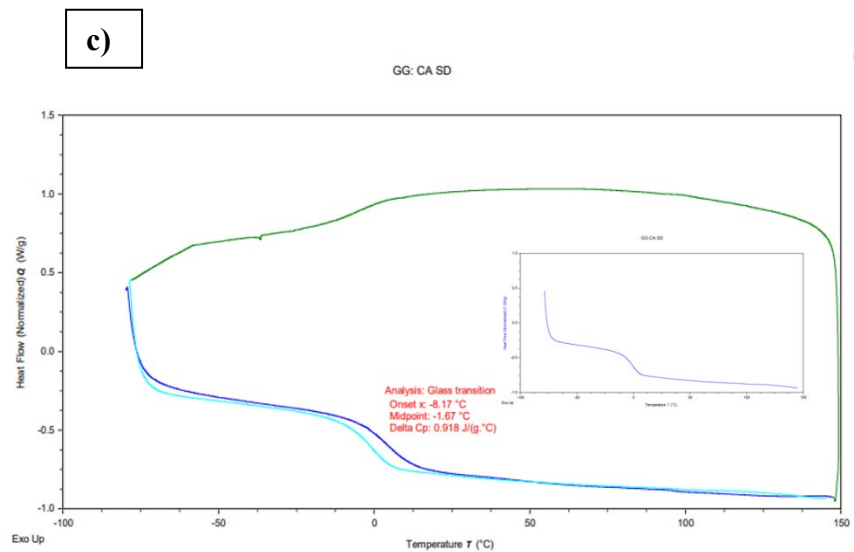
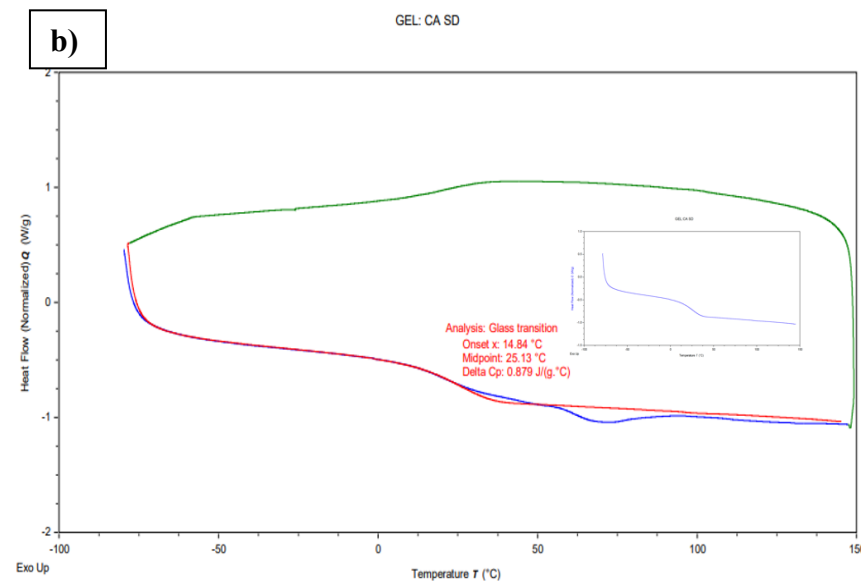
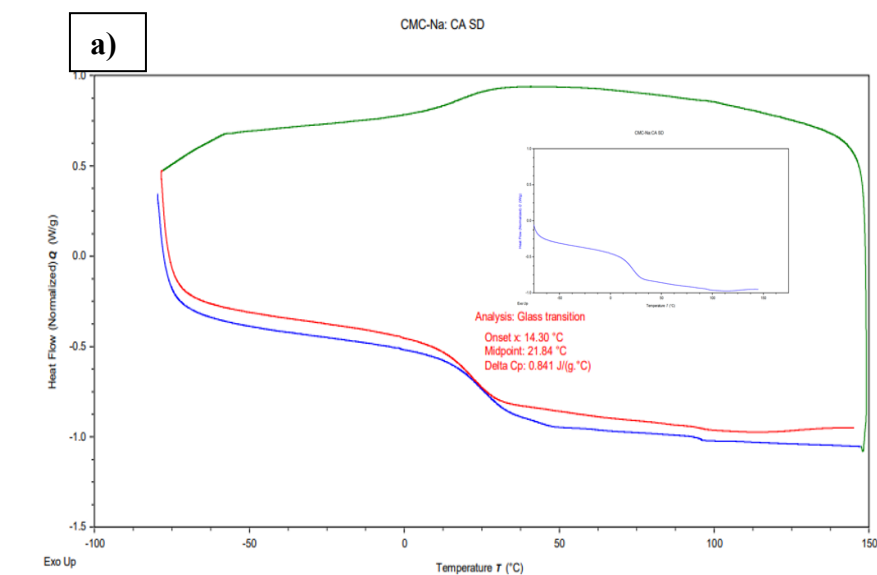


Figure S6: a) Moisture sorption profiles of samples CA and FD CA at 25 °C. Experimental (EXP) moisture sorption profile of 1:1 CA – polymer solid dispersions (SD) vs. predicted (PRE) moisture sorption profile, b) CA – PEC solid dispersions (SD) c) CA – KG solid dispersions (SD), d) CA – GEL solid dispersions (SD), e) CA – GG solid dispersions (SD), f) CA – HPMC solid dispersions (SD), g) CA – CMC-Na solid dispersions (SD).



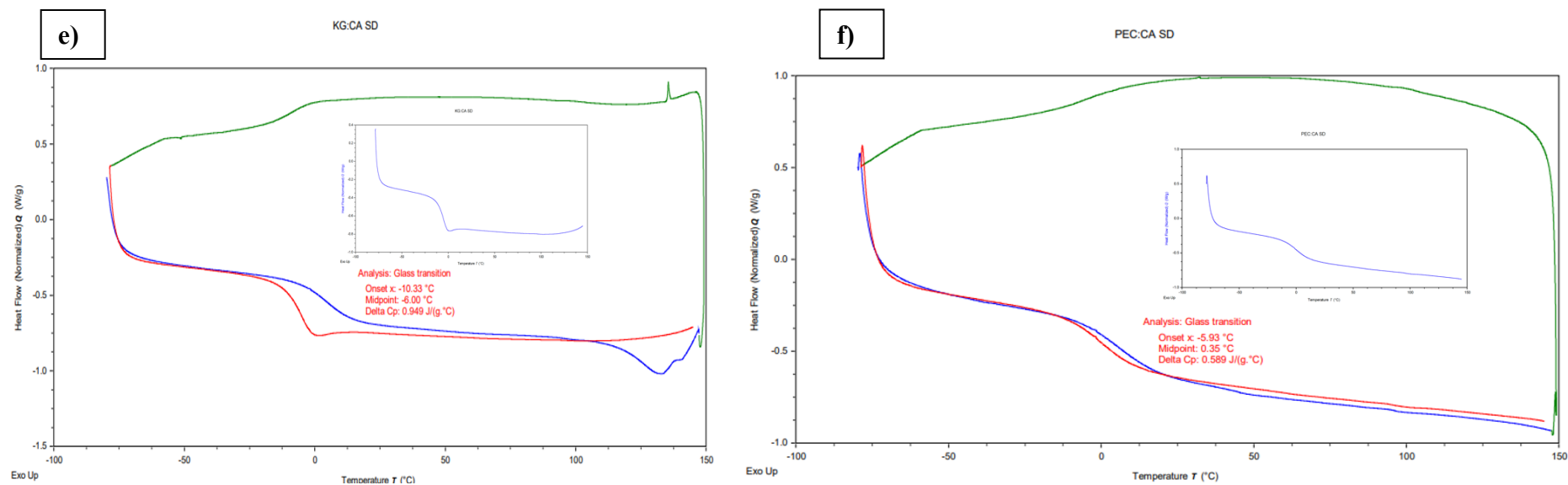
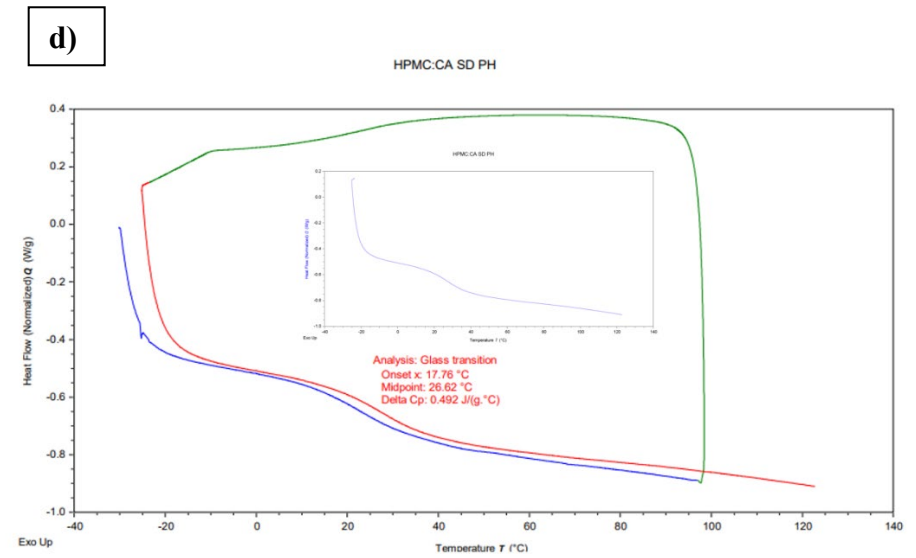
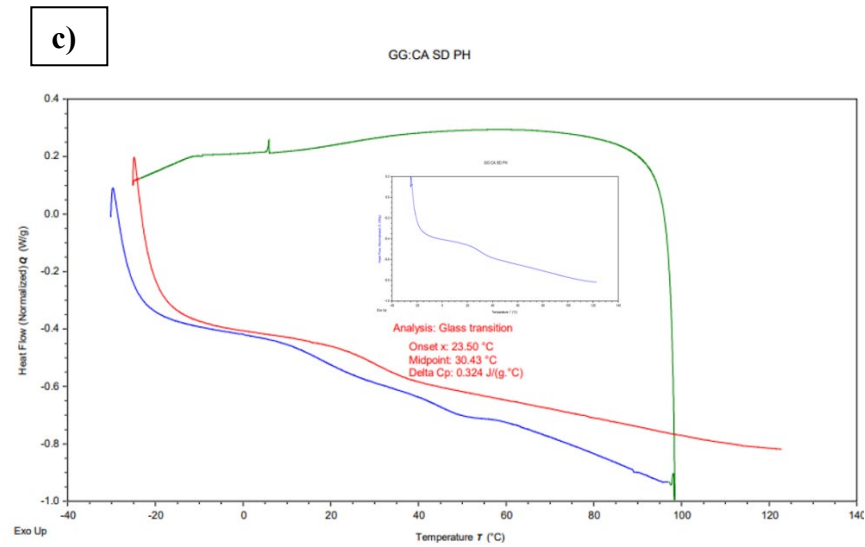
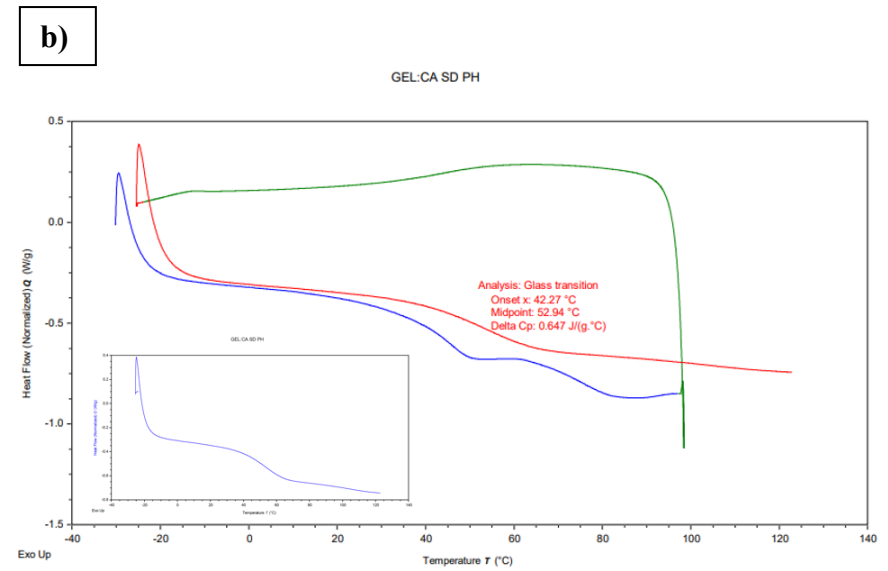
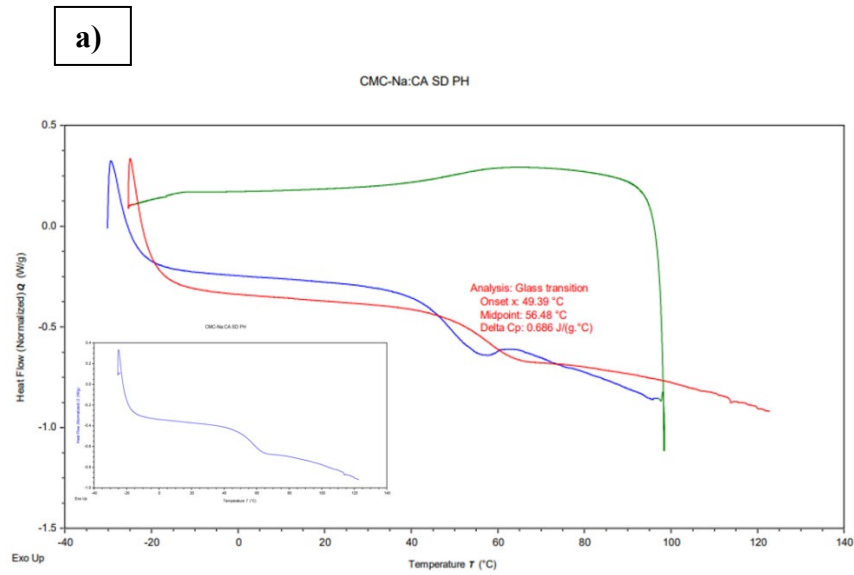


Figure S7: DSC thermograms of solid dispersions without pin hole (The separate display of second scans is shown in the full scan graphs): a) CA – CMC-Na solid dispersions (SD), b) CA – GEL solid dispersions (SD), c) CA – GG solid dispersions (SD), d) CA – HPMC solid dispersions (SD), e) CA – KG solid dispersions (SD), f) CA – PEC solid dispersions (SD).



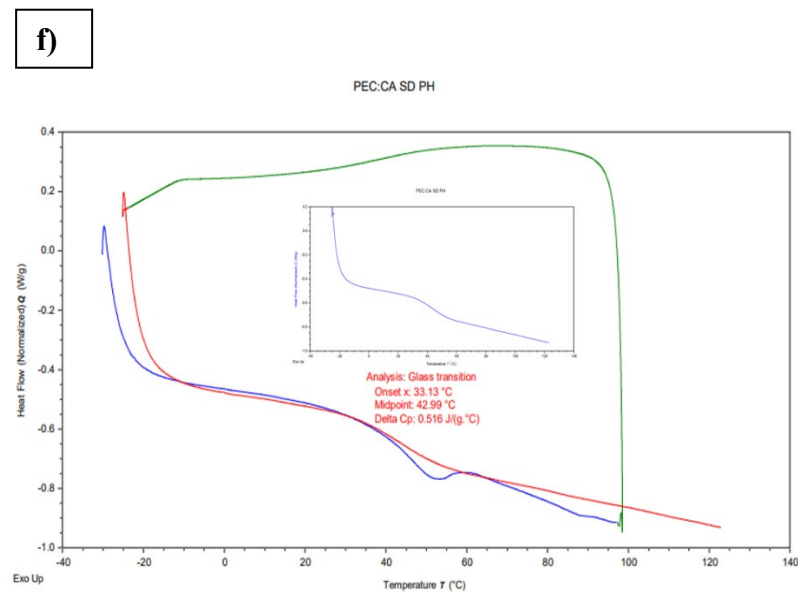
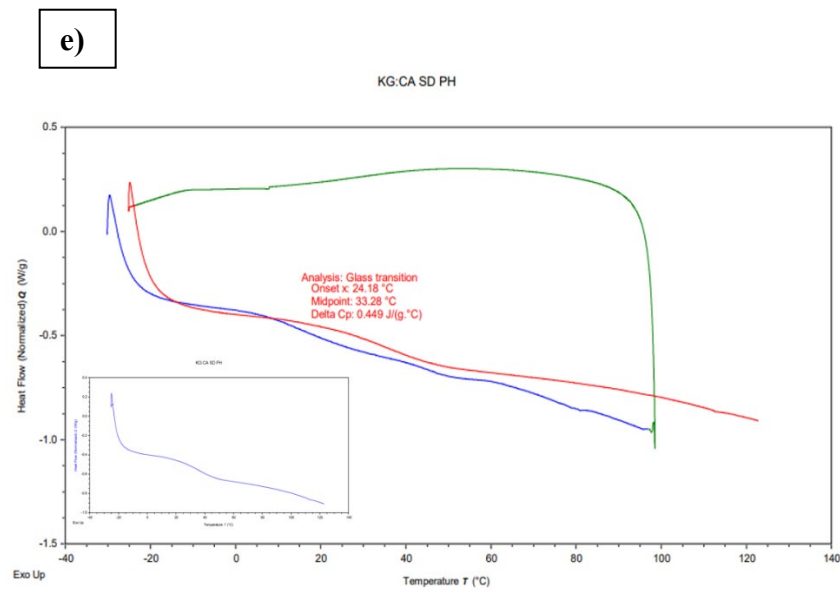


Figure S8: DSC thermograms of solid dispersions with pin hole (The separate display of second scans is shown in the full scan graphs): a) CA – CMC-Na solid dispersions (SD), b) CA – GEL solid dispersions (SD), c) CA – GG solid dispersions (SD), d) CA – HPMC solid dispersions (SD), e) CA – KG solid dispersions (SD), f) CA – PEC solid dispersions (SD).