Supporting Information for

Shear Induced Self-thickening of Chitosan/*β*-cyclodextrin Compound Solution

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Rheological experiments

Figure S1 gives the steady shear viscosity curves for CS/CD with different CD concentrations before and after shear-induced thickening. The experimental process consists of a shear stage with a shear rate of 1000 s^{-1} for 2 min (shear step) and a subsequent hold stage under low rate for 30 min (recovery step). Compared with Figure 2a, this figure gives the result of more CD concentrations with fixed CS concentration, and it can be found that only samples with a medium level CD concentrations (0.3 wt%, 0.5 wt%) after recovering process would present obvious increased viscosity which surpasses the original one. While the viscosities of other samples' (0.1 wt%, 0.2 wt%, 0.8 wt%, 1.0wt% CD) just keep constant or show recovery processes but do not exceed the original ones, which is in accordance with the results of Figure 2a.

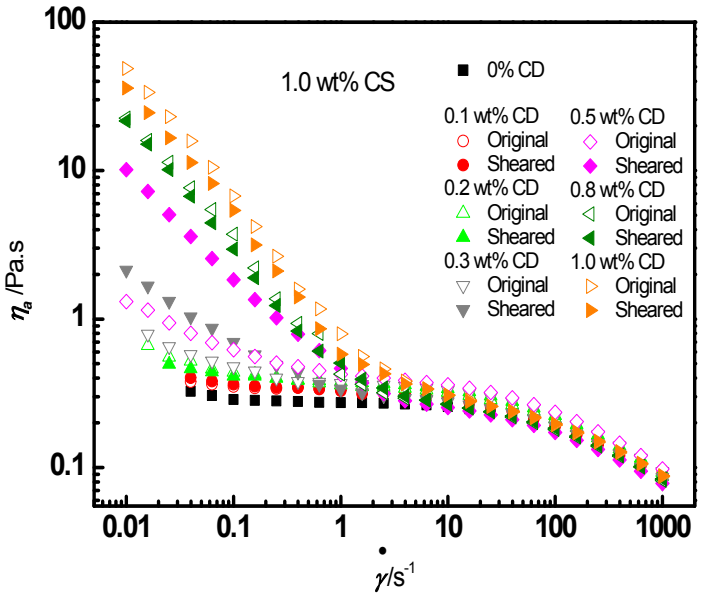

Figure S1. Comparison of steady shear viscosity curves for CS/CD in 1.0%(v/v) CH_3COOH with different CD concentrations, before(open) and after(solid) shear-induced thickening. The shear-induced thickening procedure consists of a high rate shearing at 1000 s^{-1} for 2 min and subsequent a recovering at 0.1 s^{-1} for 30 min.

Transmission electron microscope (TEM)

Figure S2 gives the TEM observation of 0.5 wt% CD in 1.0 %(w/w) CH_3COOH solution. As this figure shows, some dark domains with angular sheet morphological feature distribute in pure 0.5 wt% CD sample. However these domains with angular sheet morphological feature can't be found in CS/CD compound samples as Figure 4 shows, reflecting CDs associate with CS to form CS/CD compound association instead of being uncombined in CS/CD compound samples.

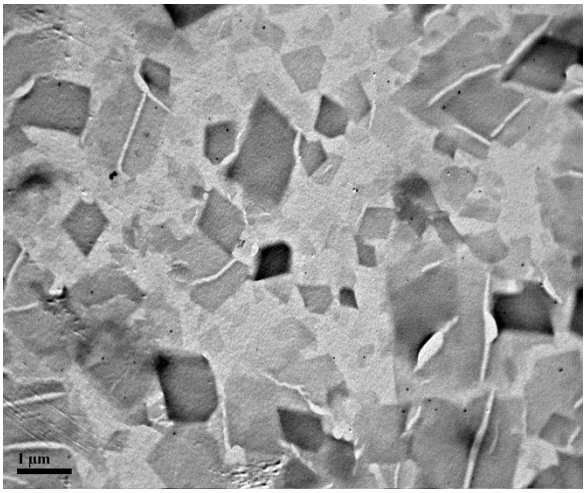

Figure S2. TEM observation of 0.5 wt% CD in 1.0%(w/w) CH_3COOH solution

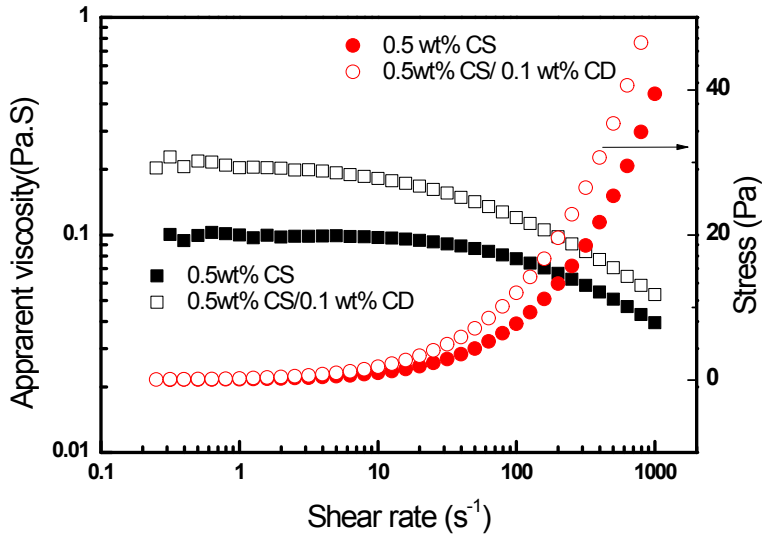

Figure S3. steady shear viscosity and stress curves for pure CS and CS/CD in 1.0%(v/v) CH_3COOH