

Article

Production of Cyclic Anhydride-Modified Starches

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Supplementary Materials

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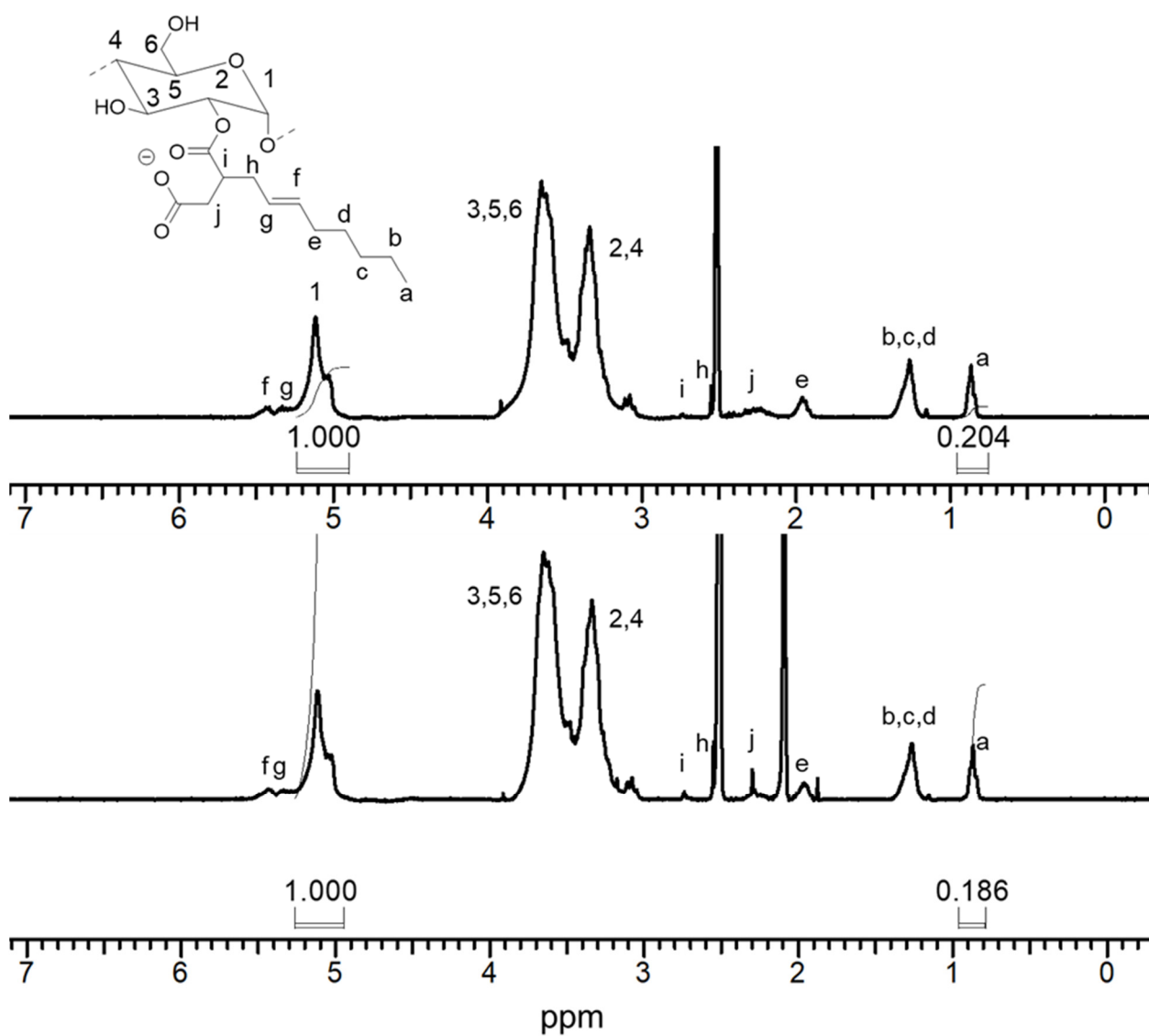


Figure 1. ^1H NMR spectra for OSA-modified starch in $\text{DMSO}-d_6$ (top) prior to purification and (bottom) after purification with acetone.

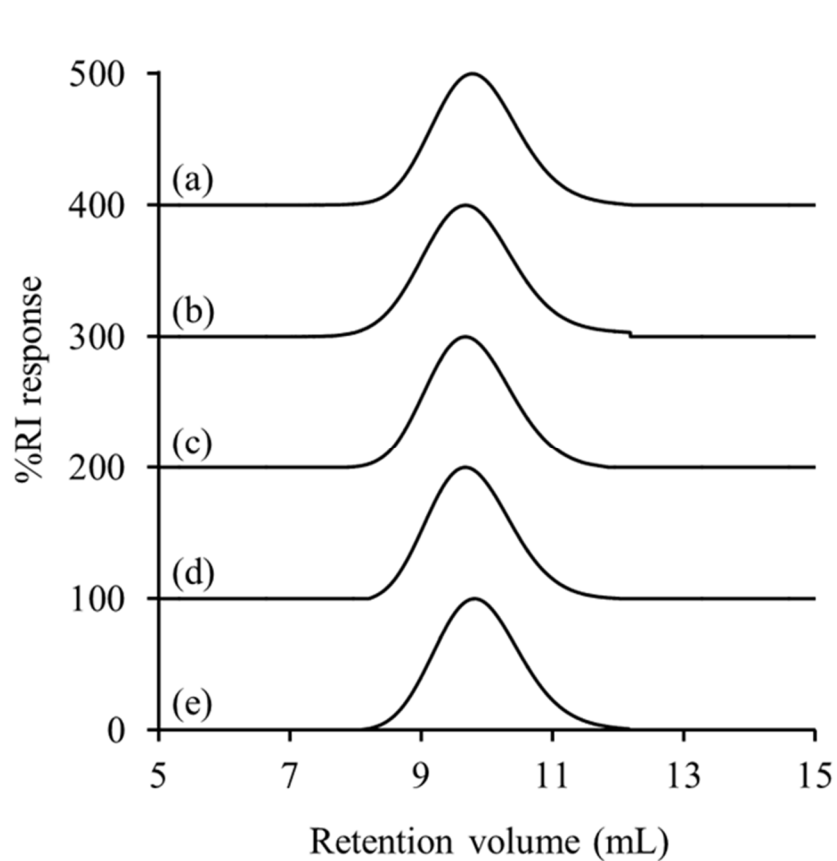


Figure 2. GPC elution curves for the baseline-subtracted normalized RI detector response for (a) unmodified gelatinized starch, gelatinized starch modified with (b) 5 wt% OSA, (c) 10 wt% OSA, (d) 5 wt% DDSA, and (e) 10 wt% DDSA in dispersed phase reactions. The position of each curve was shifted on the vertical axis for clarity.

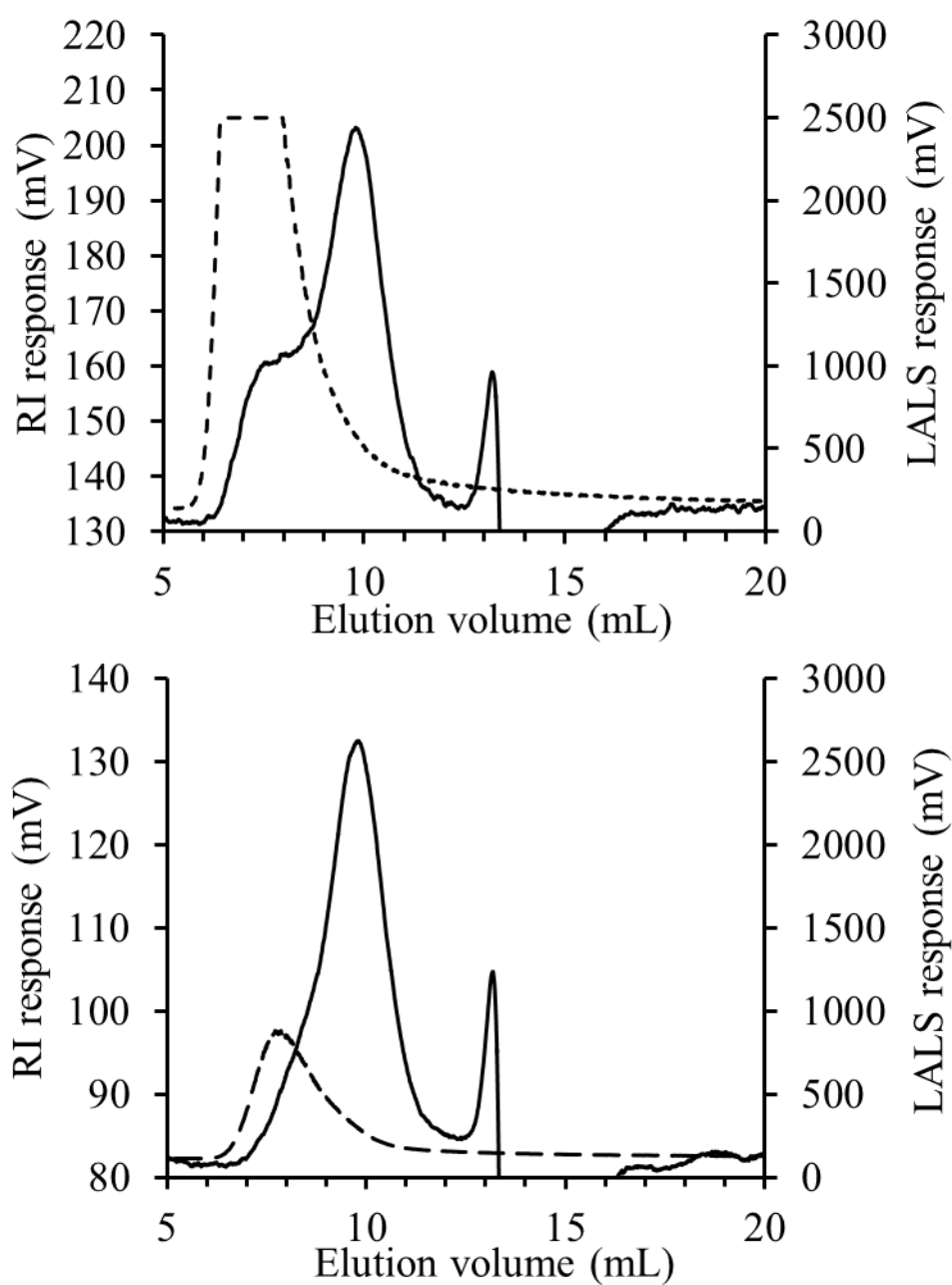


Figure 3. GPC elution curves with RI (—) and LALS (- -) detector responses for starch modified in a melt mixer under identical conditions, leading to LALS detector saturation (top; 5 wt% DDSA without base) and no saturation (bottom; 10 wt% OSA with base).

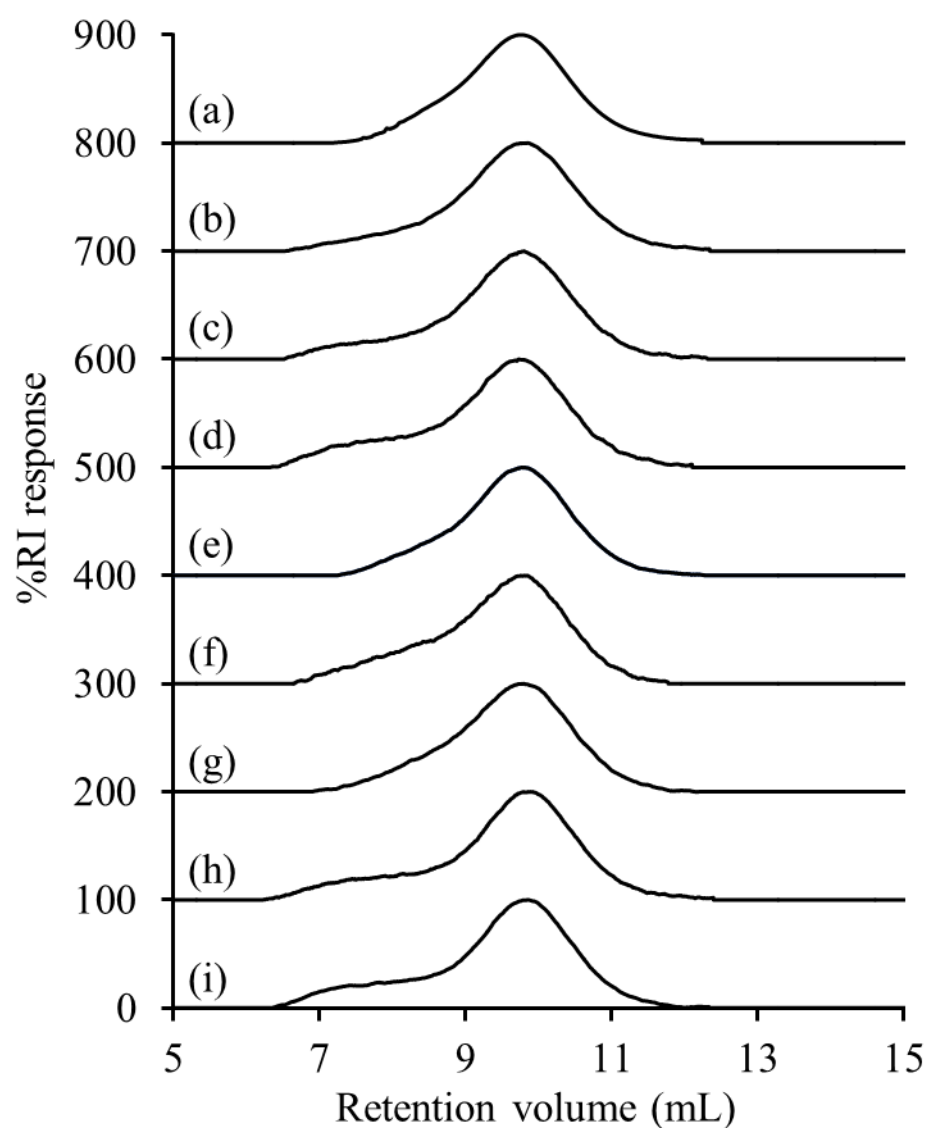


Figure 4. GPC elution curves with baseline-subtracted normalized RI detector response for starch modified in the melt mixer: (a) unmodified starch, and starch modified with (b) 5 wt% OSA, (c) 10 wt% OSA, (d) 5 wt% DDSA, and (e) 10 wt% DDSA without base; starch modified with (f) 5 wt% OSA, (g) 10 wt% OSA, (h) 5 wt% DDSA, and (i) 10 wt% DDSA with base. The position of each curve was shifted on the vertical axis for clarity.