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Supporting Information

Selective monophosphorylation of chitosan via phosphorus oxychloride

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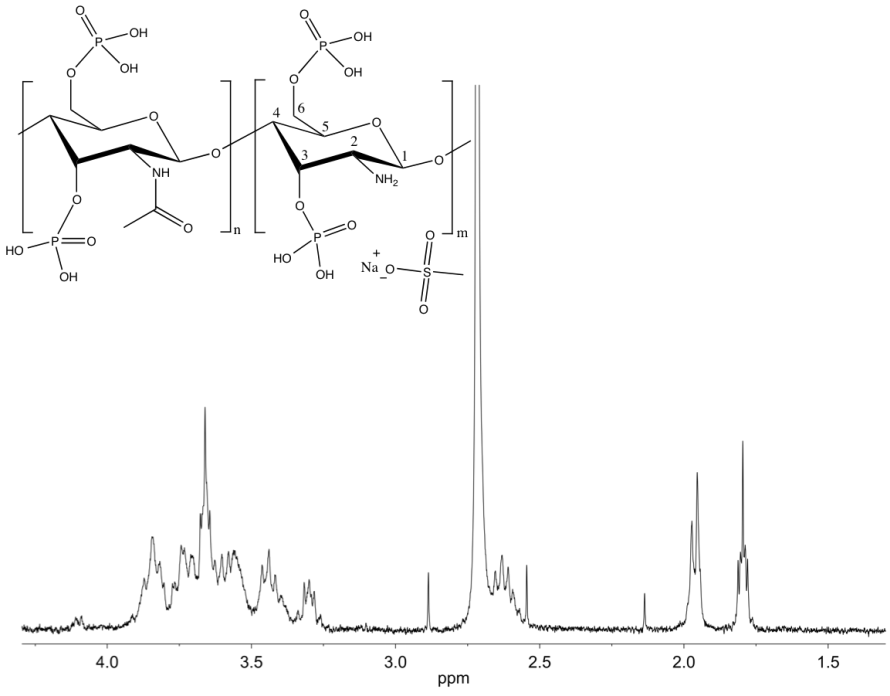


Fig S1. ^{1}H NMR spectrum in D_2O of P-chitosan after washing with 50 mM NaOH. Peak at 1.8 ppm is associated with residual tetrahydrofuran.

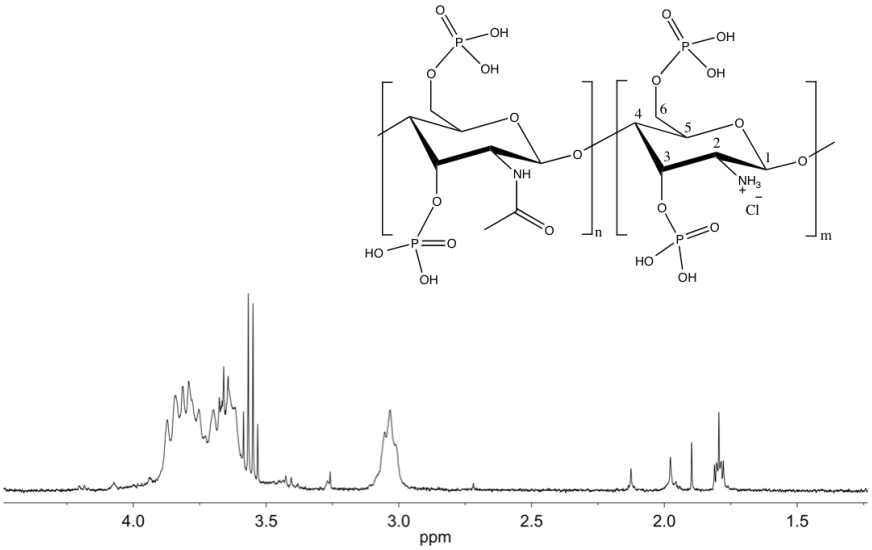


Fig S2. ^{1}H NMR spectrum in D_2O of P-chitosan after washing with 2 M HCl.

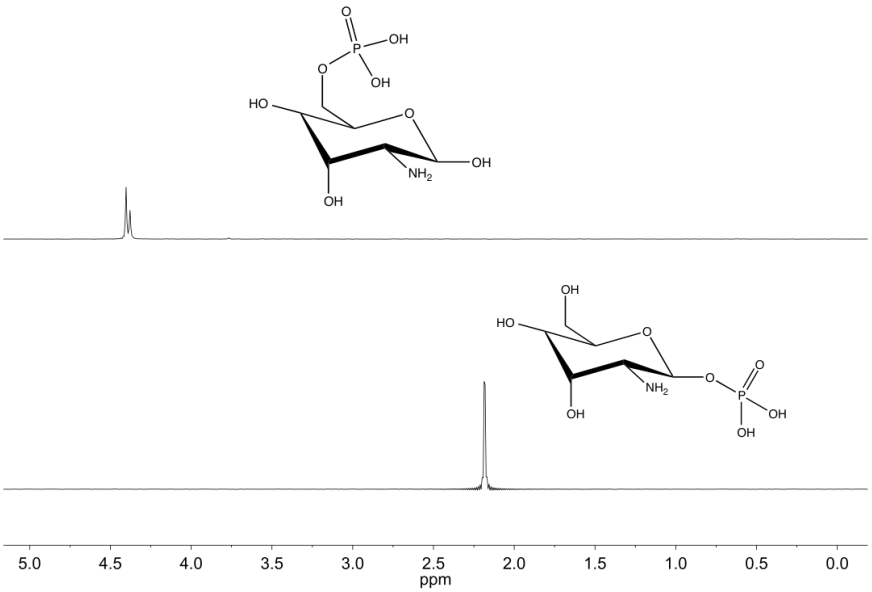


Fig S3. ^{31}P NMR spectrum of (top) D-glucosamine 6-phosphate and (bottom) D-glucosamine 1-phosphate. Samples were prepared in 1:3 volumetric ratio of D_2O to 50 mM NaOH.

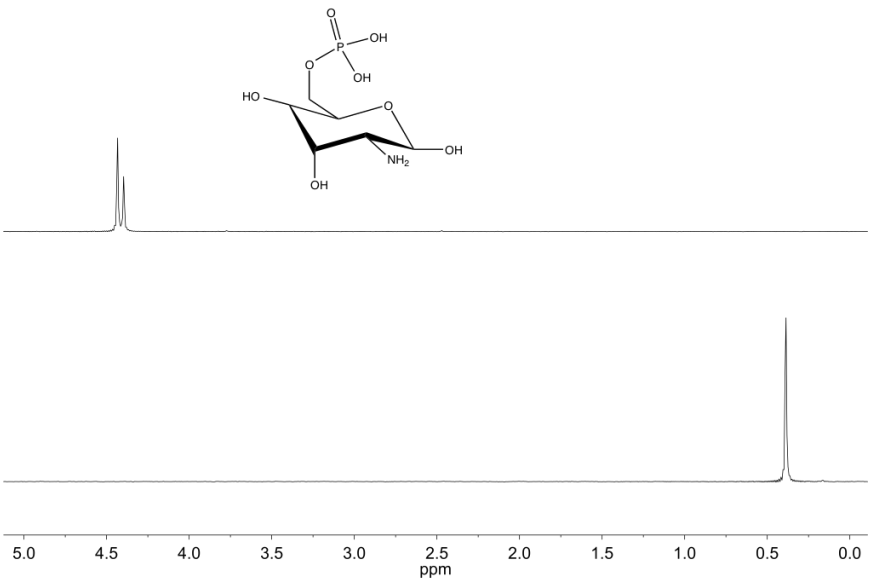


Fig S4. ^{31}P NMR spectrum of D-glucosamine 6-phosphate prepared in (top) 1:3 volumetric ratio of D_2O to 50 mM NaOH and (bottom) 1:3 volumetric ratio of D_2O to 50 mM HCl.

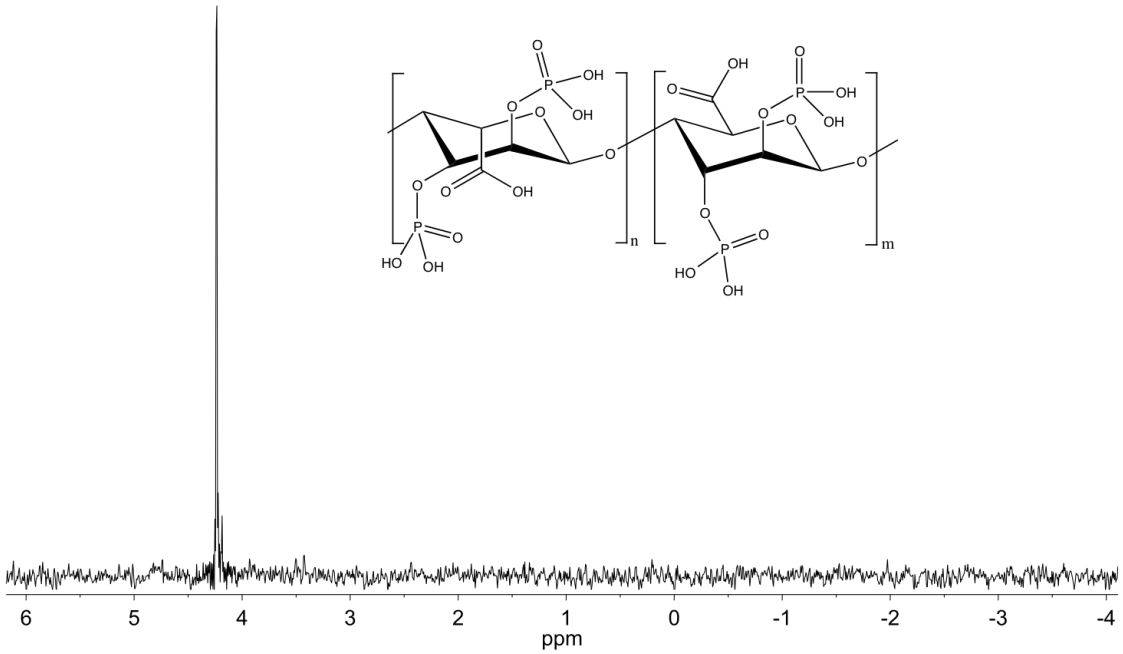


Fig S5. ^{31}P NMR spectrum of phosphorylated alginate. Sample was prepared in 1:3 volumetric ratio of D_2O to 50 mM NaOH.

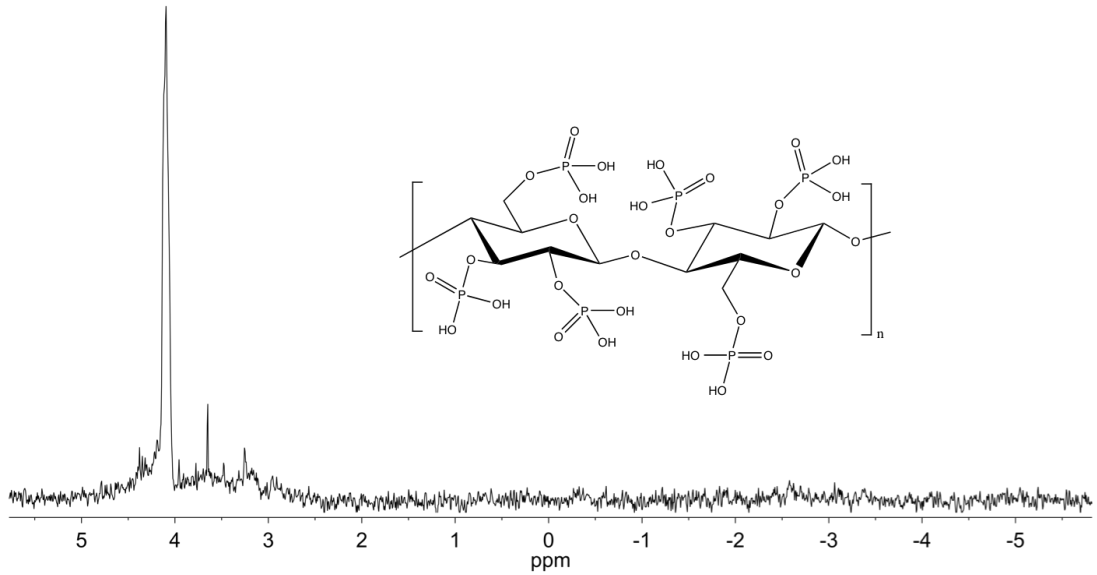


Fig S6. ^{31}P NMR spectrum of phosphorylated cellulose. Sample was prepared in 1:3 volumetric ratio of D_2O to 50 mM NaOH.

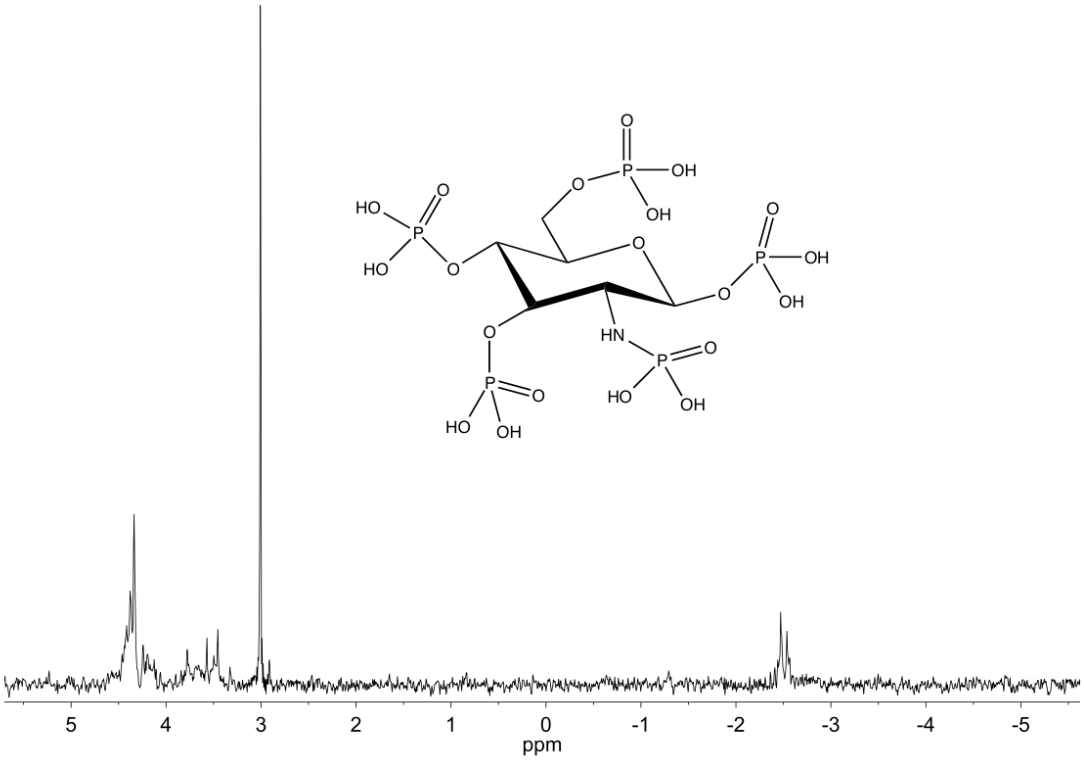


Fig S7. ^{31}P NMR spectrum of phosphorylated D-glucosamine. Sample was prepared in 1:3 volumetric ratio of D_2O to 50 mM NaOH.

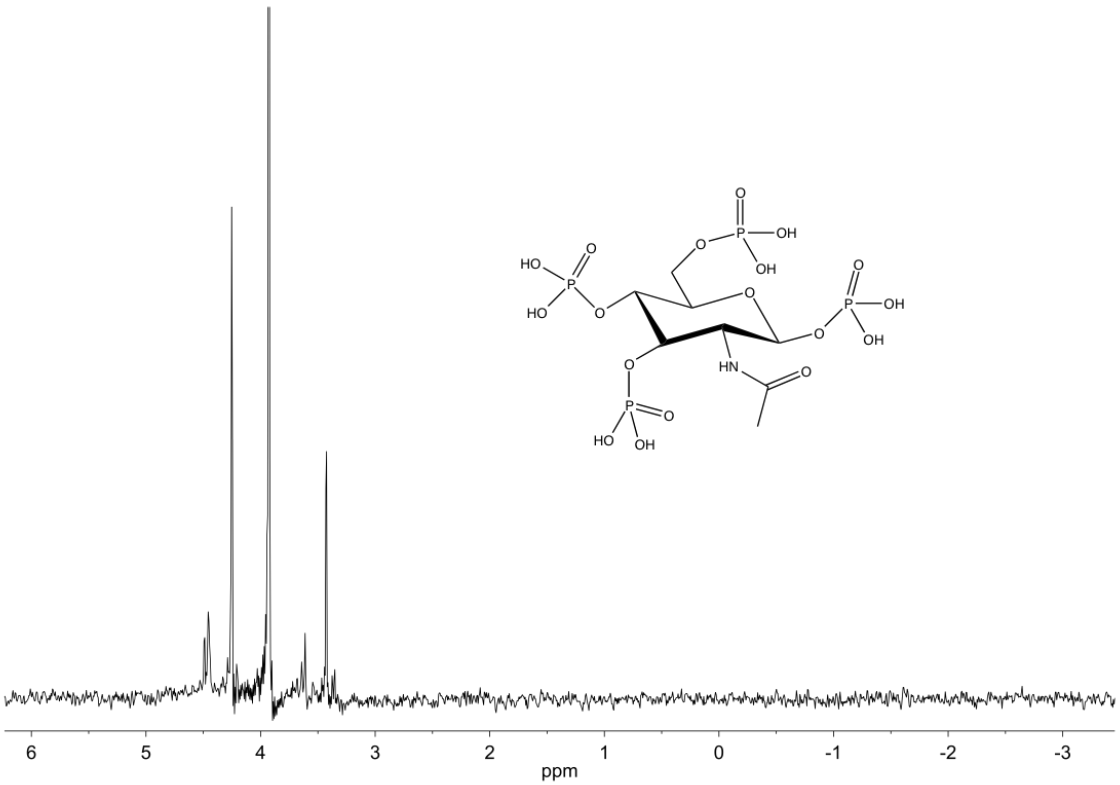
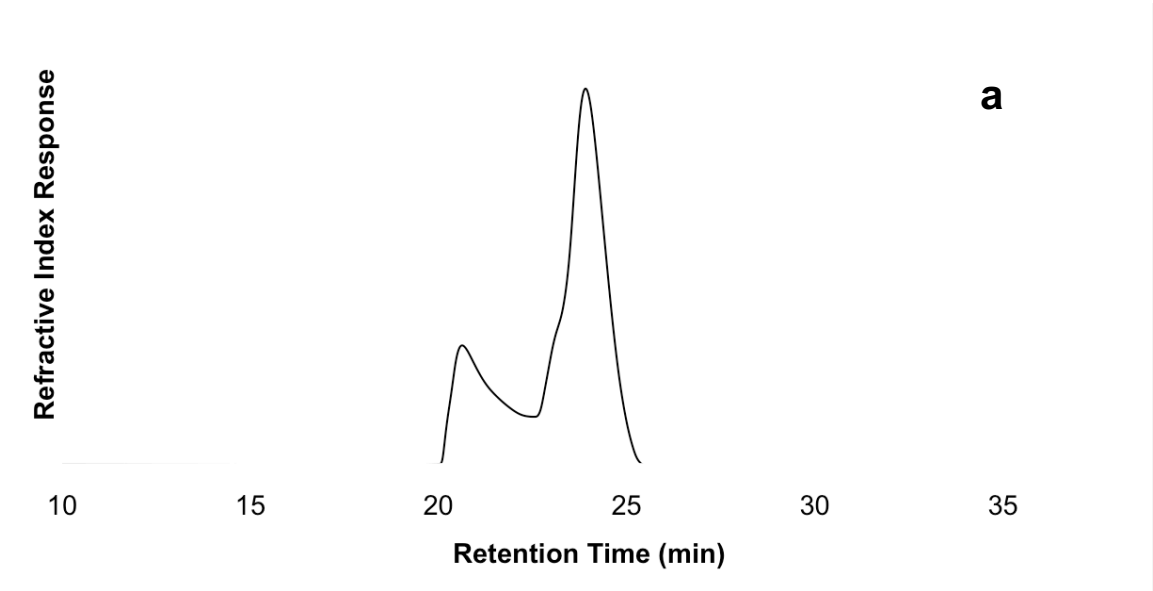


Fig S8. ^{31}P NMR spectrum of phosphorylated *N*-acetylglucosamine. Sample was prepared in 1:3 volumetric ratio of D_2O to 50 mM NaOH.



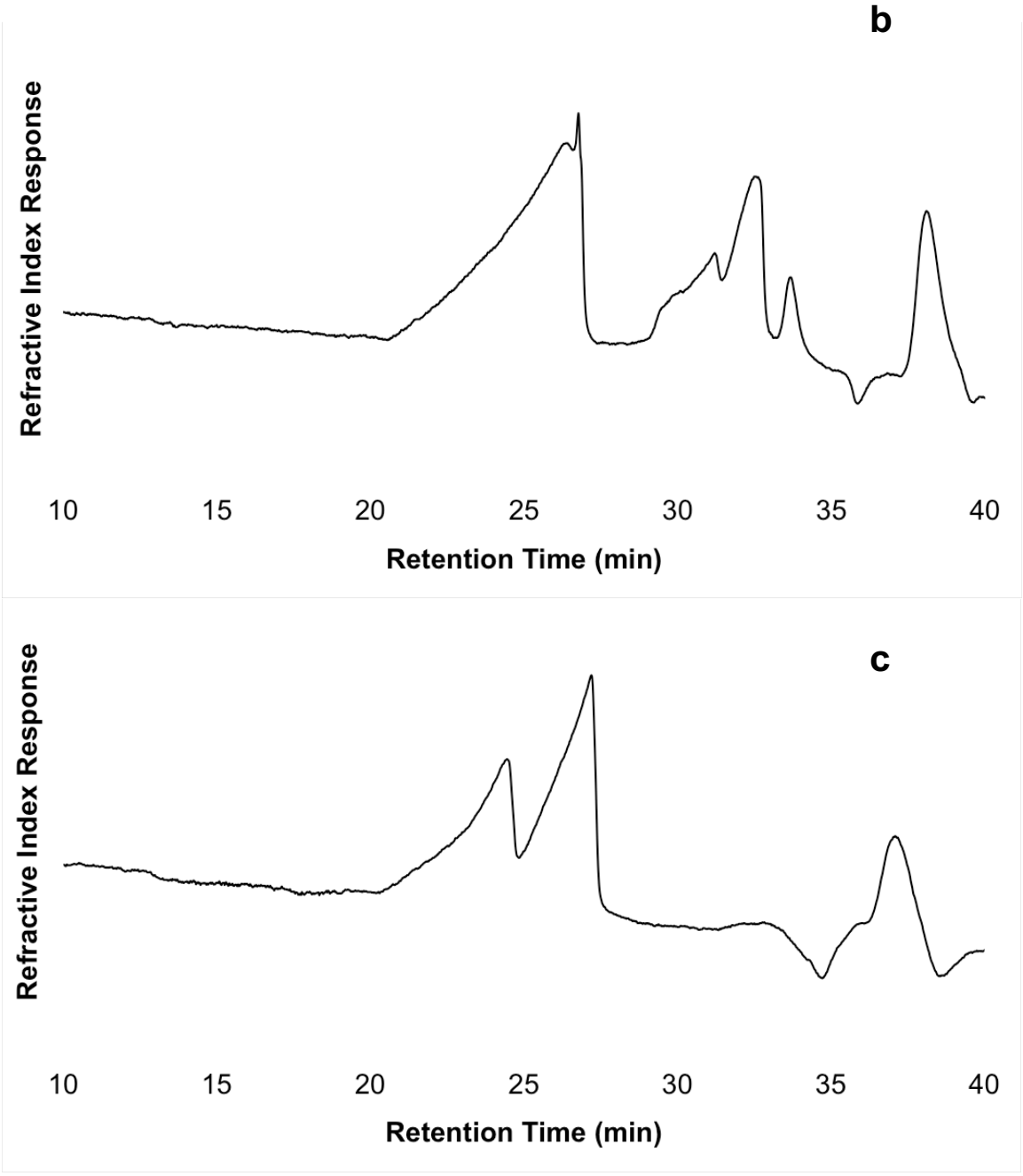


Fig S9. GPC chromatograms of (a) native chitosan, (b)72 h P-chitosan, (c) and 72 h chitosan without phosphorylation (i.e., without the additon of $POCl_3$).