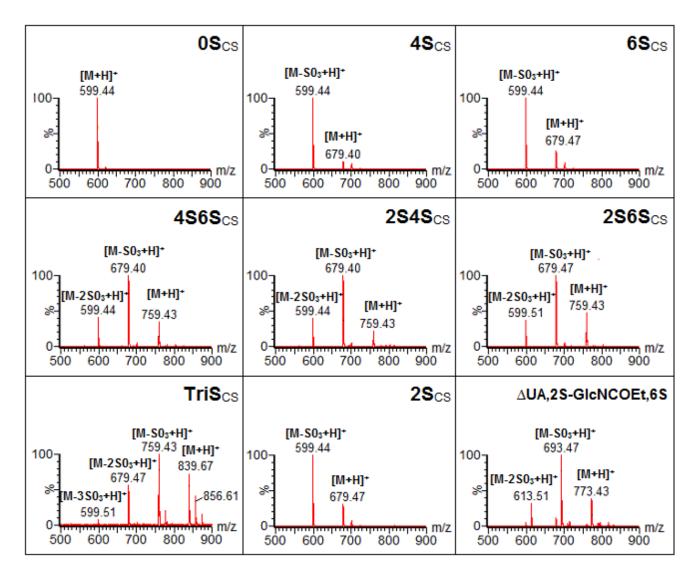


**Figure S-1:** Effect of ammonium formate (pH 4.4) concentration on procainamide (PA)-labelled CS disaccharide separation using GlycanPac AXH-1 (a) 50 mM (b) 150 mM



**Figure S-2:** Mass spectra of procainamide-labelled CS disaccharides and internal standard ( $\Delta$ UA,2S – GlcNCOEt-6S)

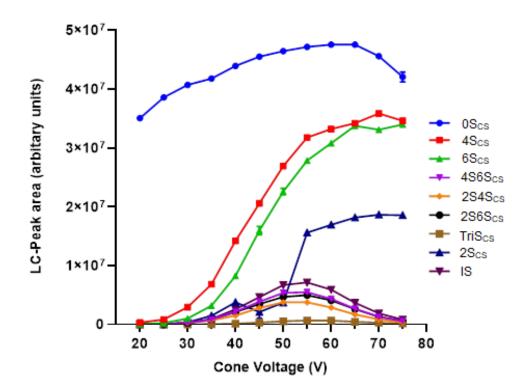
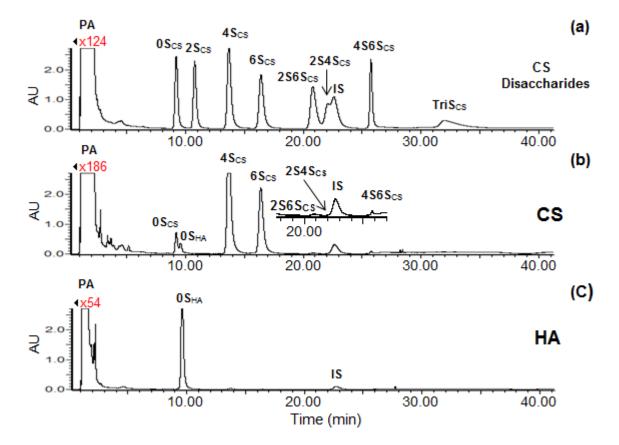


Figure S-3: LC-Peak area of procainamide-derivatised CS disaccharides and disaccharide internal disaccharide standard ( $20 \mu g/mL$  each) as a function of MS cone voltage.



**Figure S-4:** Chromatogram of procainamide (PA)-labelled (a) CS disaccharides and internal standard (b) disaccharide composition of bovine cartilage CS and (c) rooster comb HA upon chondroitinase ABC digestion.