Supporting Information for:

"Rapid Detection of High Charge Density Polyanion Contaminants in

Biomedical Heparin Preparations Using Potentiometric Polyion Sensors"

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Chemical structures of heparin, OSCS and DS and detailed potentiometric response data of the polyanion sensors toward mixtures with different content of DS and porcine heparin at different final total polyanion concentrations are shown.

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Table 1S (A). Potentiometric response of PVC membranes doped with TDMAC toward polyanion samples with different ratios of DS and porcine heparin [a]

| DS wt% in polyanion preparations	Avg. ΔEMF (mV) [b]	SD (mV) [c]
100	-105.0	2.1
20	-104.2	1.0
10	-102.6	0.6
1.0	-97.9	0.5

a. The final polyanion concentration is 1 mg/mL.

b. EMF values were recorded 10 min after the injection of polyanion solutions

c. The standard deviations were calculated using data collected from 4 sensors for each concentration.

Table 1S (B). Potentiometric response of PVC membranes doped with TDMAC toward polyanion samples with different ratios of DS and porcine heparin [a]

DS wt% in polyanion preparations	Avg. ΔEMF (mV) [b]	SD (mV) [c]
100	-107.2	1.2
20	-104.8	0.9
10	-104.5	1.5
1.0	-102.2	2.3
0.2	-101.5	0.8

a. The final polyanion concentration is 5 mg/mL.

b. EMF values were recorded 10 min after the injection of polyanion solutions

c. The standard deviations were calculated using data collected from 4 sensors for each concentration.
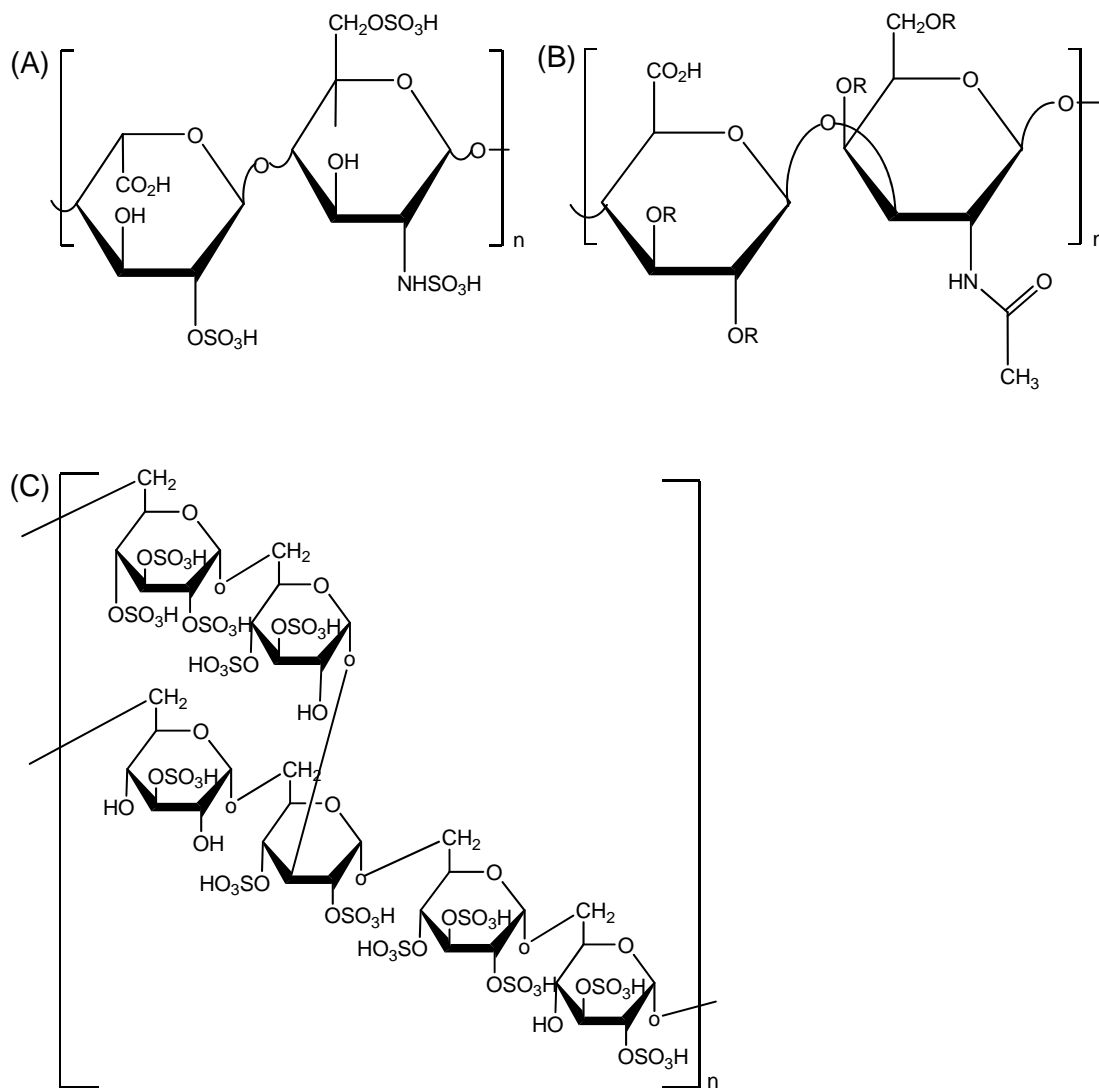
Figure Legend for Supporting Information:

Figure 1S. Chemical structures of heparin (A), OSCS (B) (R = SO$_3$H for fully sulfated OSCS, R = H or SO$_3$H for partially sulfated OSCS, R = H for CS), and DS (C)