LEGENDS TO SUPPLEMENTARY FILES

Fig. S1. Schematic illustration of the experimental procedures used to characterize Drosophila heparan sulfate. HPLC SAX denotes strong anion exchange chromatography using a Partisil SAX column.

Fig. S2. Paper chromatography of [^{3}H]saccharides. [^{3}H]Saccharides isolated by G15 gel chromatography after deamination and radiolabeling of *Drosophila* HS according to (A) *Protocol A*, (B) *Protocol B;* or (C) terminal disaccharides released from Protocol B oligosaccharides after deamination at pH 1.5 (see "Experimental procedures" and Fig. 4) were fractionated by paper chromatography on Whatman no 3MM paper in ethyl acetate/acetic acid/H_2O (3:1:1, by vol.) for 21 hours. After drying, papers were cut in 1 cm segments and analyzed for radioactivity. The *dotted line*s refer to the migration of standard disaccharides, *numbers* indicating the migration positions of 1, IdoA2S-aMan$_R$6S; 2, GlcA-aMan$_R$6S; 3, GlcA-aMan$_R$, and 4, IdoA-aMan$_R$ disaccharide standards. The peak at ~17 cm in *panel A* represents IdoA-aMan$_R$6S along with IdoA2S-aMan$_R$.

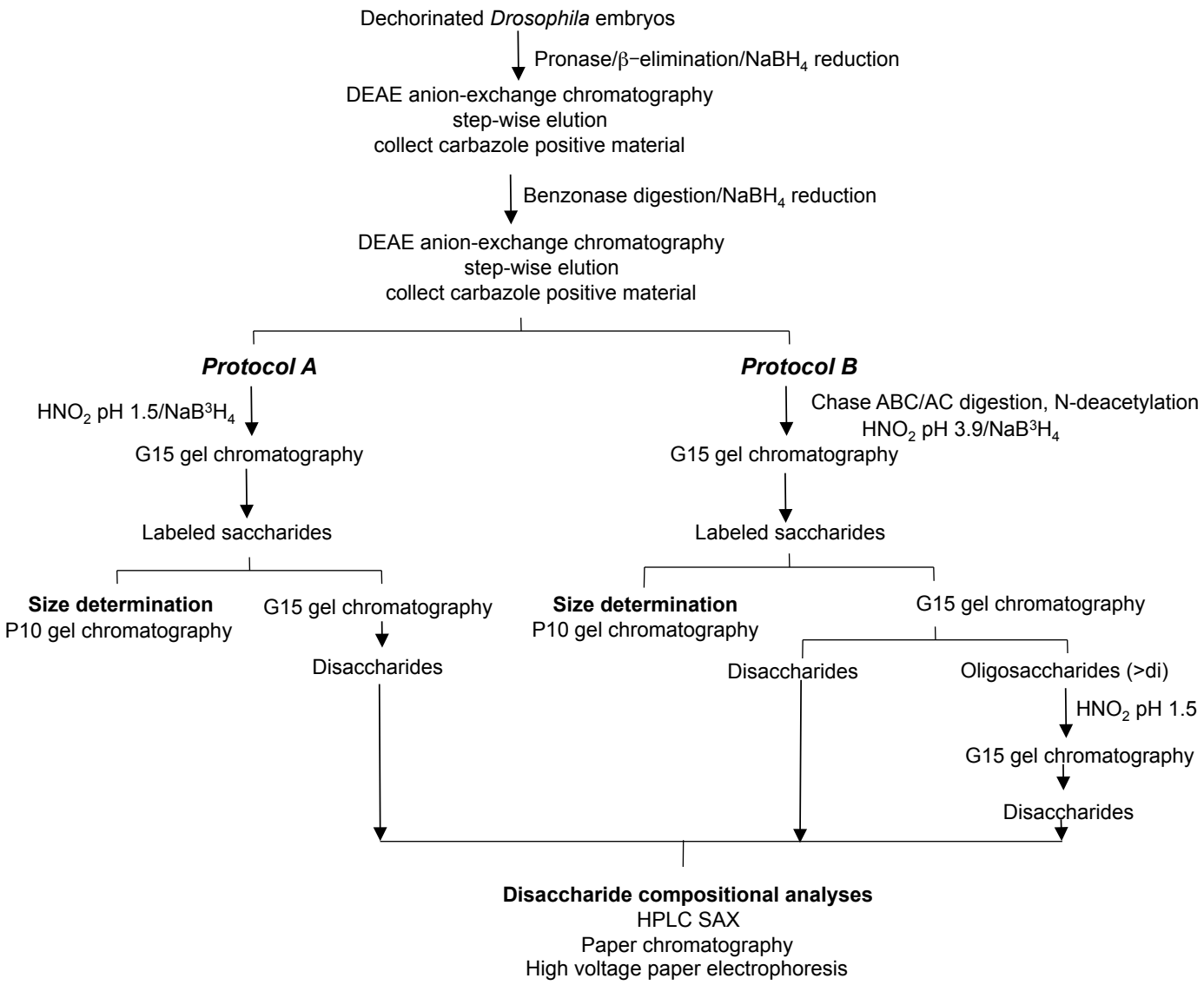

Fig. S1

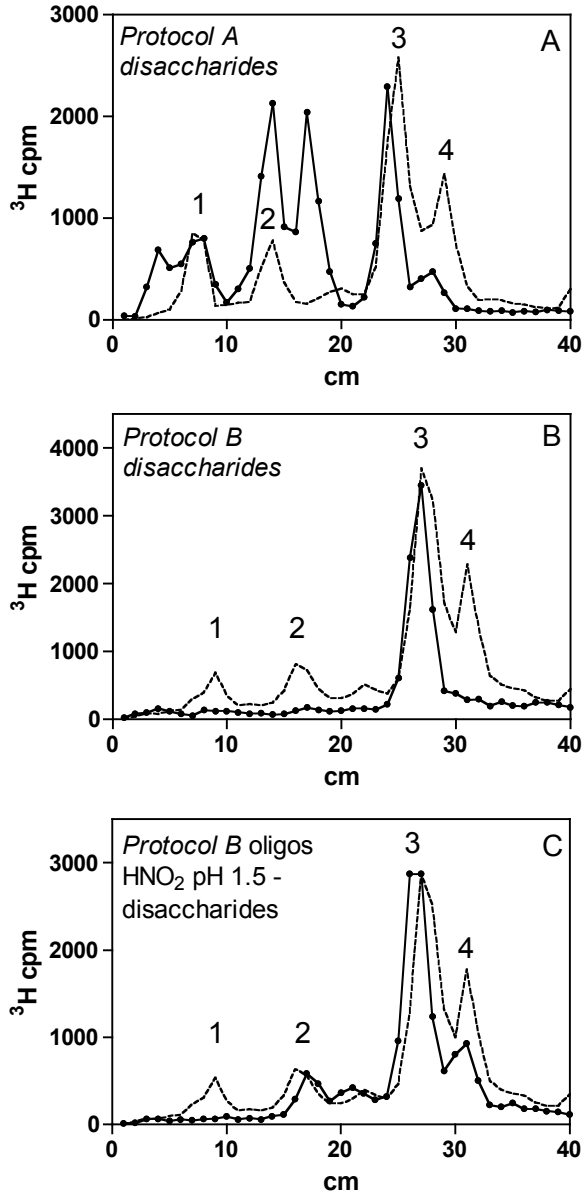

Fig. S2