Electronic Supplementary Information

Brewers' Spent Grain (BSG)-Based Green Dielectric Materials for Low-Voltage Operating Solution-Processed Organic Field-Effect Transistors

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Keywords: Brewers' spent grain; dielectric; eco-friendly; green solvent; organic field-effect transistors

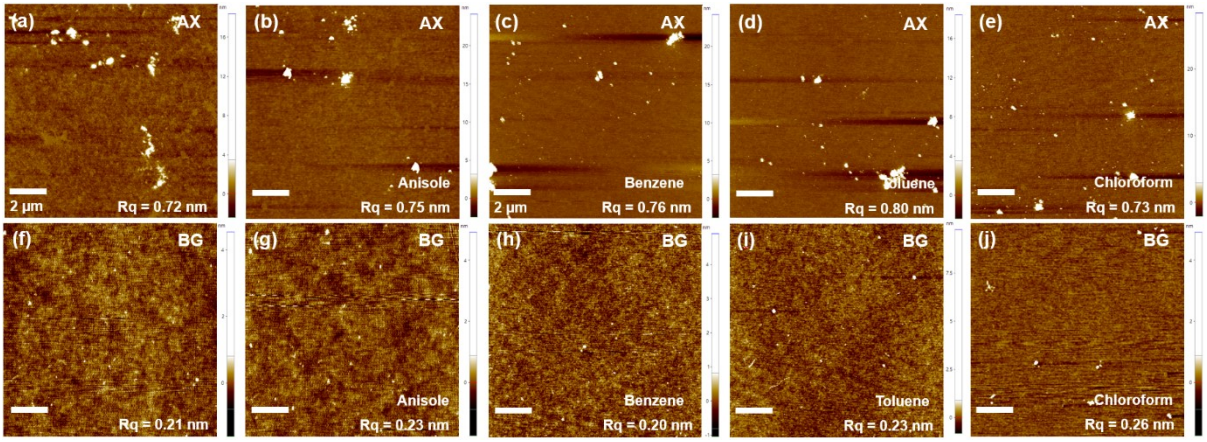

Fig. S1. AFM images (area size 10 µm × 10 µm) of spin-coated (a)-(e) arabinoxylan (AX) and (f)-(j) beta-glucan (BG) films: (a), (f) before solvent treatment, and (b – e)/(g – j) AX and BG films after immersing in anisole, benzene, toluene, and chloroform, respectively, for 5 min followed by spinning at 2000 rpm and annealing at 100 °C for 1 h.

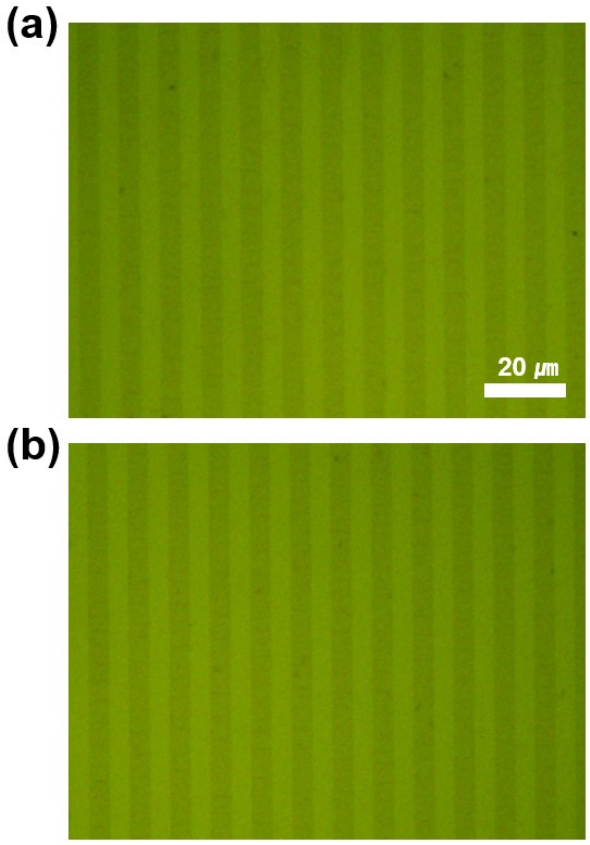

Fig. S2. OM images of the patterned (a) arabinoxylan and (b) beta-glucan films via reactive ion etcher.

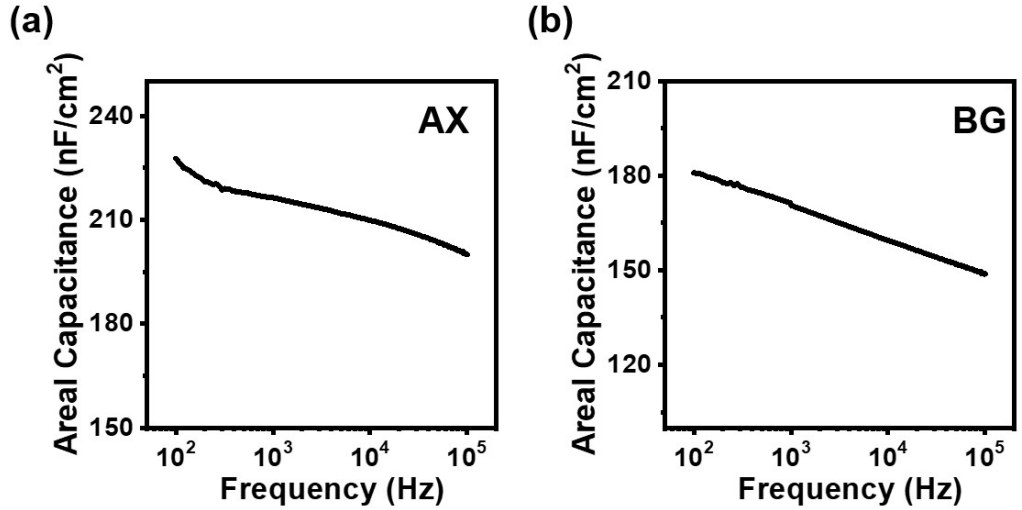

Fig. S3. Areal capacitance vs. frequency plots of (c) AX, and (d) BG dielectrics

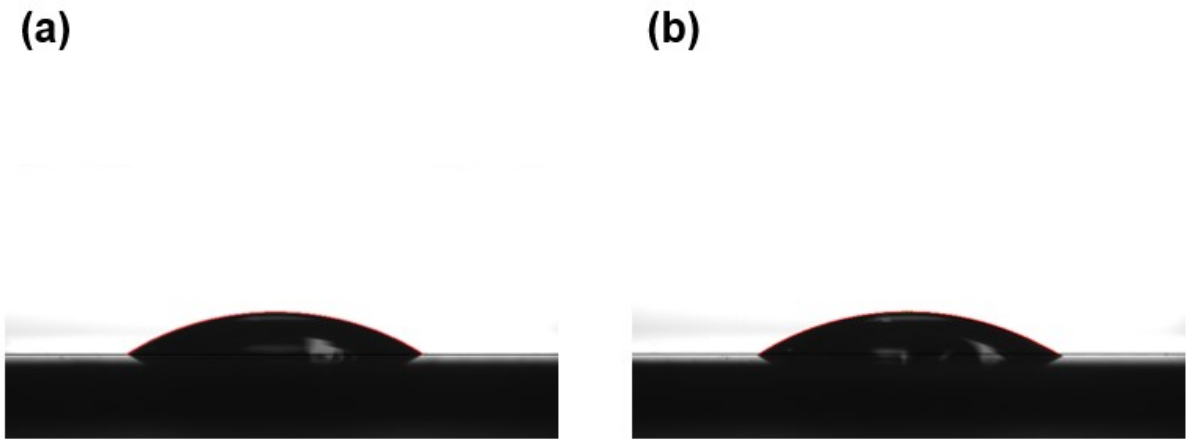

Fig. S4. Water contact angle images of the (a) AX and (b) BG films.

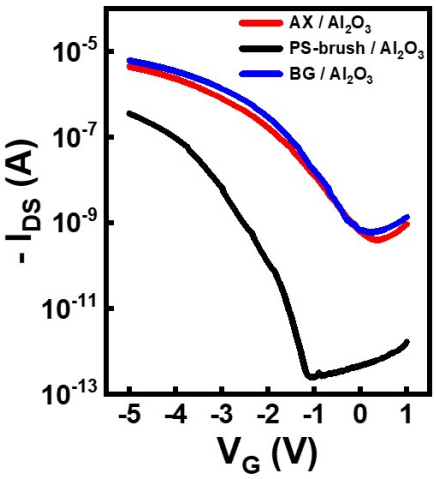

Fig. S5. Comparison of transfer characteristics of Ph-BTBT-C_{10} OFETs based on indicated dielectrics; AX/alumina (red line), BG/alumina (blue line), and PS-brush/alumina (black line)