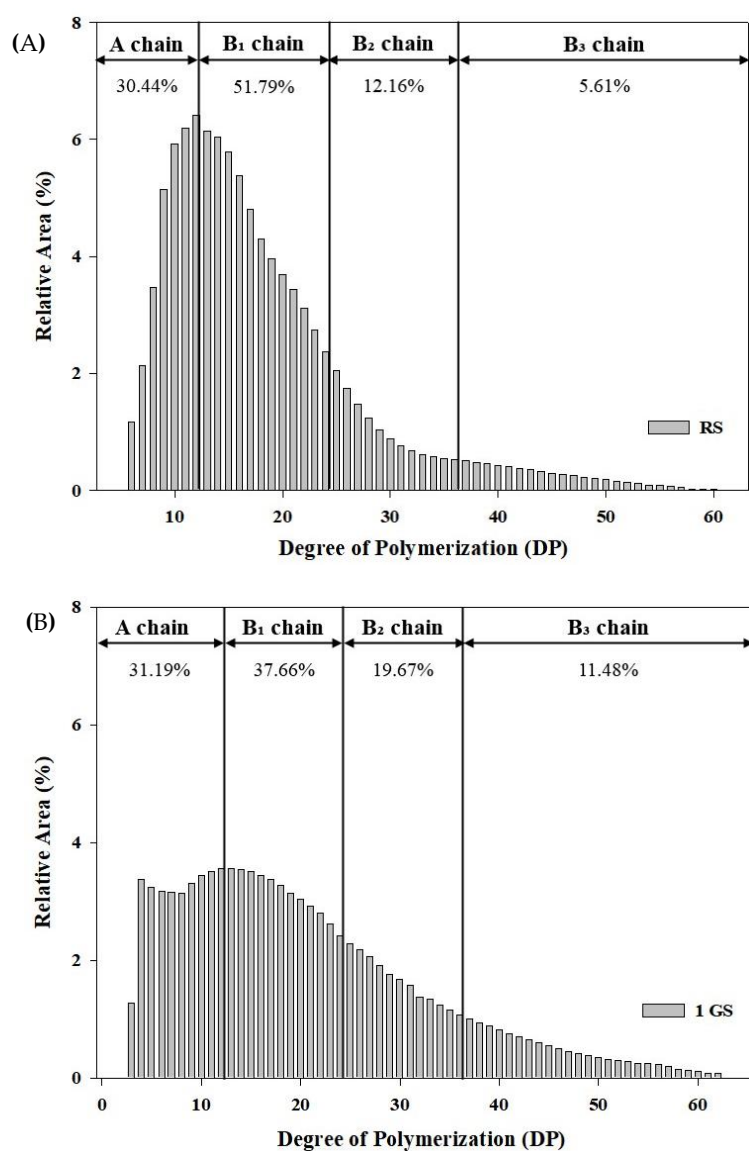


Figure S1. Molecular weight distributions of native rice starch (RS) and 4- α -glucanotransferase-treated rice starch (1 GS and 96 GS). The molecular weight (Da) of the pullulan standard was shown in the upper right.



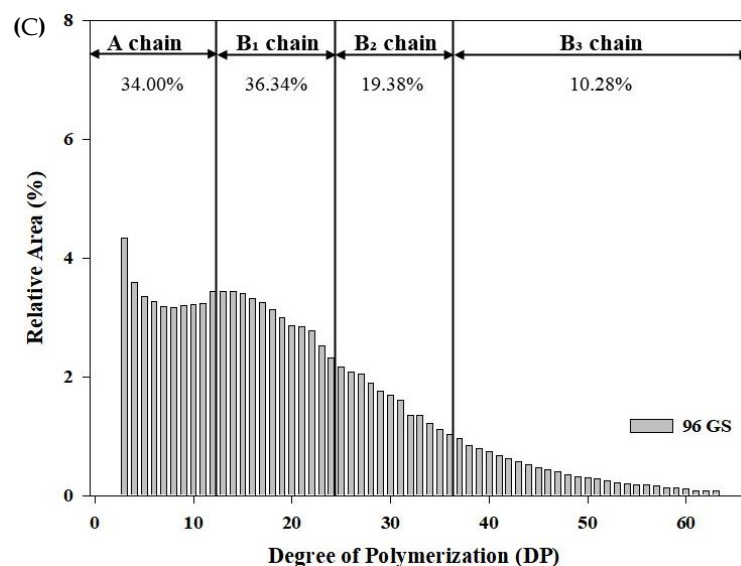


Figure S2. Relative branch chain length distribution of (A) native rice starch (RS), (B) rice starch treated with 4- α -glucanotransferase for 1 h (1 GS), and (C) rice starch treated with 4- α -glucanotransferase for 96 h (96 GS). A chain: DP \leq 12, B₁ chain: DP 13-24, B₂ chain: DP 25-36, B₃ chain: DP > 36.



Figure S3. Visual appearance of the prepared curcumin loaded in native rice starch-based filled hydrogel (RS-FH), 4- α -glucanotransferase treated (for 1 h) rice starch-based filled hydrogel (1 GS-FH), and 4- α -glucanotransferase treated (for 96 h) rice starch-based filled hydrogel (96 GS-FH).