

**Direct conversion of cellulose into sorbitol using dual-functionalized catalysts in neutral aqueous solution**

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Direct and selective conversion of cellulose into sorbitol was carried out over dual-functionalized catalysts containing both sulfonate groups and Ru nanoparticles. A high sorbitol yield of 71.1% was obtained in a neutral aqueous solution without an aid of liquid phase acid at an intermediate reaction temperature of 165 °C via synergy of sulfonate groups and Ru sites on the catalyst surface. No deactivation was observed even after 5th repeated reactions. The effect of reaction time, temperature, and the Ru amount was also evaluated for the sorbitol production. The cellulose was decomposed by simultaneous hydrolysis and hydrogenation producing cello-oligomers with partially hydrogenated end groups.