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Abstract	:	Today, the chemical industry faces tremendous pressure to make breakthroughs in green materials, biofuels, and sustainable chemicals. In fact, the goal is to move industrial methods and technologies toward those that are cost-effective and environmentally friendly. Chemical transformation of renewable resources is essential to ensure the long-term sustainability of chemicals and to make sure that energy is sufficient for society in the future. The focus of this study was on the conversion of cellulose to glucose using platinum supported on zeolite as a catalyst. Wet impregnation method was employed to synthesize the catalyst, which was then characterized by thermogravimetric analysis (TGA), Fourier transform infrared (FTIR) spectroscopy, and Brunauer-EmmettTeller (BET) analysis. According to the catalyst characterization performed using TGA, the nitrate precursors of the catalyst decomposed at temperatures between 200 and 280 °C. The finding was verified by FTIR, which showed a diminishing intensity of the peak around 1450–1300 cm⁻¹, indicating that the catalyst was free of precursors. Subsequently, the catalyst was calcined at 500 °C for 5 h. It is noteworthy that this catalyst has a large surface area of up to 648.13 m²/g. A catalytic reaction study on the conversion of cellulose to glucose was carried out to investigate several factors, including substrate loading and catalyst loading...see more.