

Abstract

Cephalexin drug was condensed with another compound in equal molar ratios to produce Cephalexin modified with good yield. The synthesized compound was characterized by micro-elemental analysis (CHNS), infrared spectroscopy (IR) and proton nuclear magnetic resonance (NMR) spectroscopy. The acute toxicity of the prepared compound was measured using the Dixon method and the LD50 value was 677.2 mg / kg body weight in laboratory mice (moderate toxicity). The antibacterial activity was tested using isolated Gram positive and Gram-negative pathogenic bacteria which characterized by PCR, including methicillin resistant *Staphylococcus aureus*. The new compound has shown a higher efficacy than the drug for some bacteria and high efficacy against other types of bacteria.