

Abstract Submitted
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NMR tracking of the effects of deuterated water in glucose metabolism of yeast KHOA NGUYEN, LLOYD LUMATA, JAMES MULHERN, (Department of Physics, University of Texas at Dallas, Richardson, TX 75080) — Nuclear magnetic resonance (NMR) spectroscopy is a non-invasive technique used to analyze the chemical composition and structural elucidation of samples. This experiment tracks real-time changes in glucose uptake and subsequent ethanol production to determine metabolism and growth of *Saccharomyces Cerevisiae* (Baker's yeast). Deuterium oxide (D_2O), which is a heavy form of water, is used as the substitute of regular water H_2O in yeast cell suspension in this study. The main finding of this research is that glucose metabolism is being suppressed especially in fully deuterated nutrient media in these experiments. We will discuss the detailed results of this study and the potential effects of D_2O on other biological processes. This study is supported by the Welch Foundation grant AT-1877, DOD grants W81XWH-21-1-0176 and W81XWH-19-1-0741, CPRIT grant RP180716, and the UTD CoBRA and SPIRE grants.

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