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F61 Nuclear magnetic resonance

Long Report

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Abstract

In this experiment we started by studying the basics of magnetic excitation. Inparticular, we wanted to understand how exactly nuclear spins are excited to perform Larmor precession. We measured the relaxation time in the first part of the experiment. In the second part, we identified different substances by comparing the measured shifts of the Larmor frequency caused by different molecular structures. Lastly, we used nuclear magnetic resonance and different imaging methods to take pictures of several objects, analogously to the medical MRI treatment.

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