

MaMaSELF



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Simultaneous measurement of relaxation times and proton density fat fraction in bone marrow using Magnetic Resonance Spectroscopy

Clinical application of magnetic resonance (MR) technique has been developed for several tens of years since late 1970. Currently, MR plays an important and irreplaceable role in disease diagnose and trace of therapy response. Compare to MR imaging, MR spectroscopy gives additional information of quantification of different resonance signals due to chemical shift. This contrast of chemical shift allows us to non-invasive analyze organ composition. Despite there are advantages of MR spectroscopy, this technique is not widely used in clinical application due to requirement of professional knowledge in data processing and excessive scanning time. The aim of this work is to build up processing pipeline of MRS data, simultaneous characterize both relaxation time T1 and T2, and quantify bone marrow composition.

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