Radiofrequency muon spin resonance studies of muoniated diamagnetic and free radical species in liquid acetone

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TF-μSR and RF-μSR techniques have been used to investigate the muons irradiated liquid acetone. Results of the TF and RF studies ascertain the validity of the earlier transverse μSR results at room temperature that muon thermalization is mostly due to prompt processes happening in sub ns time scale. The comparison of TF-μSR and time-delayed integral RF-μSR data at different temperatures were used to differentiate the spin relaxation rates from reaction rates of diamagnetic muoniated species ($(CH_3)_2COMu^+$).