

# Development of [ $^{18}\text{F}$ ]LU14 for PET Imaging of Cannabinoid Receptor Type 2 in the Brain

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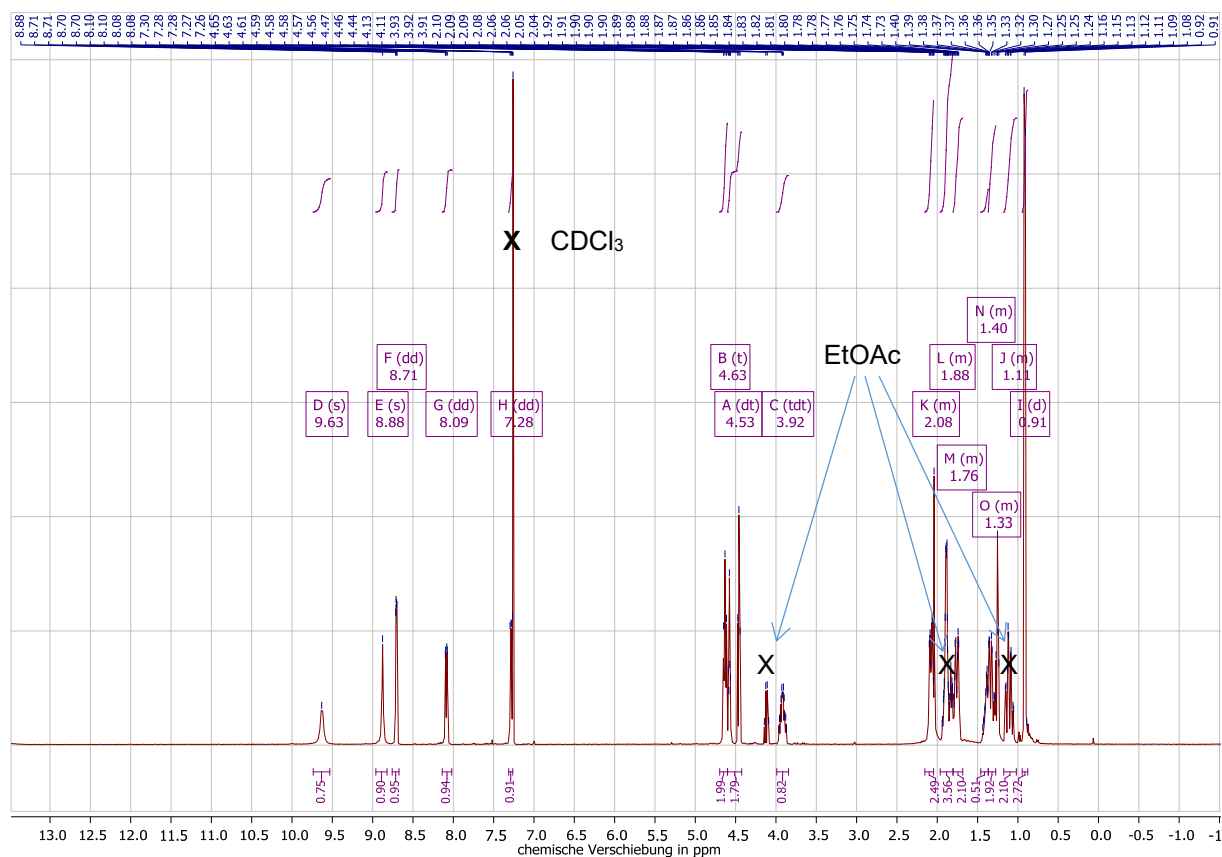
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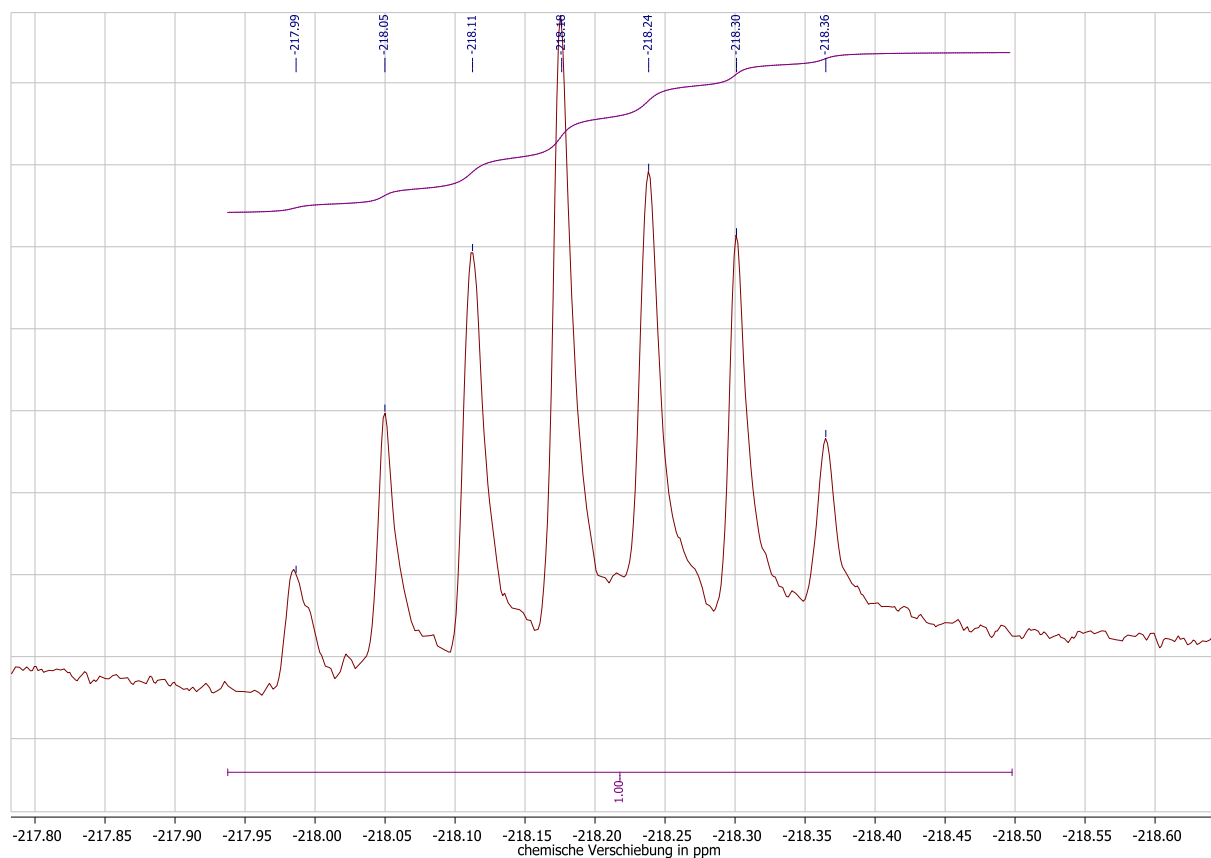
## Content:

1. NMR characterization of compound *trans*-5 and *cis*-5 (LU14)
2. Rat spleen autoradiography
3. Spleen TAC of [ $^{18}\text{F}$ ]LU14

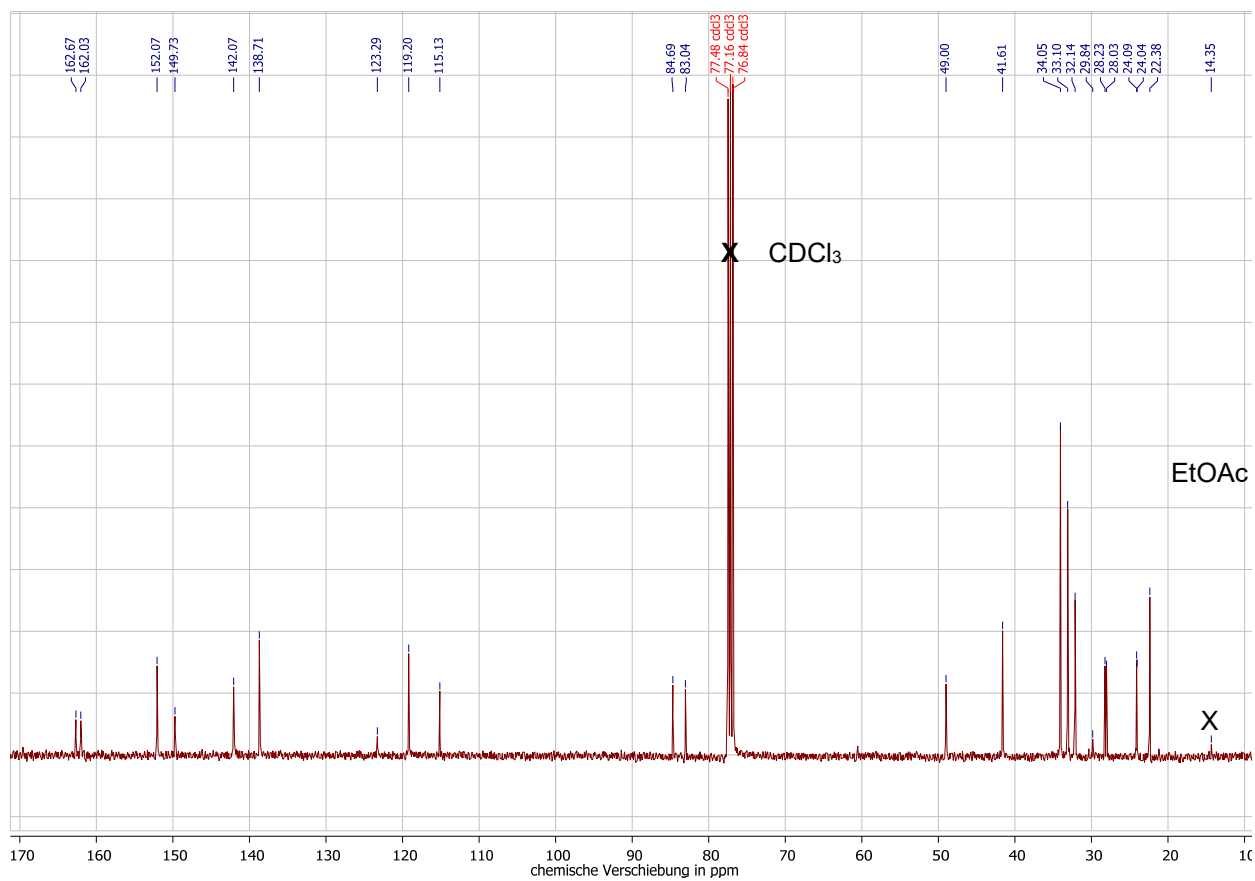
## *Trans*-5 $^1\text{H}$ NMR:



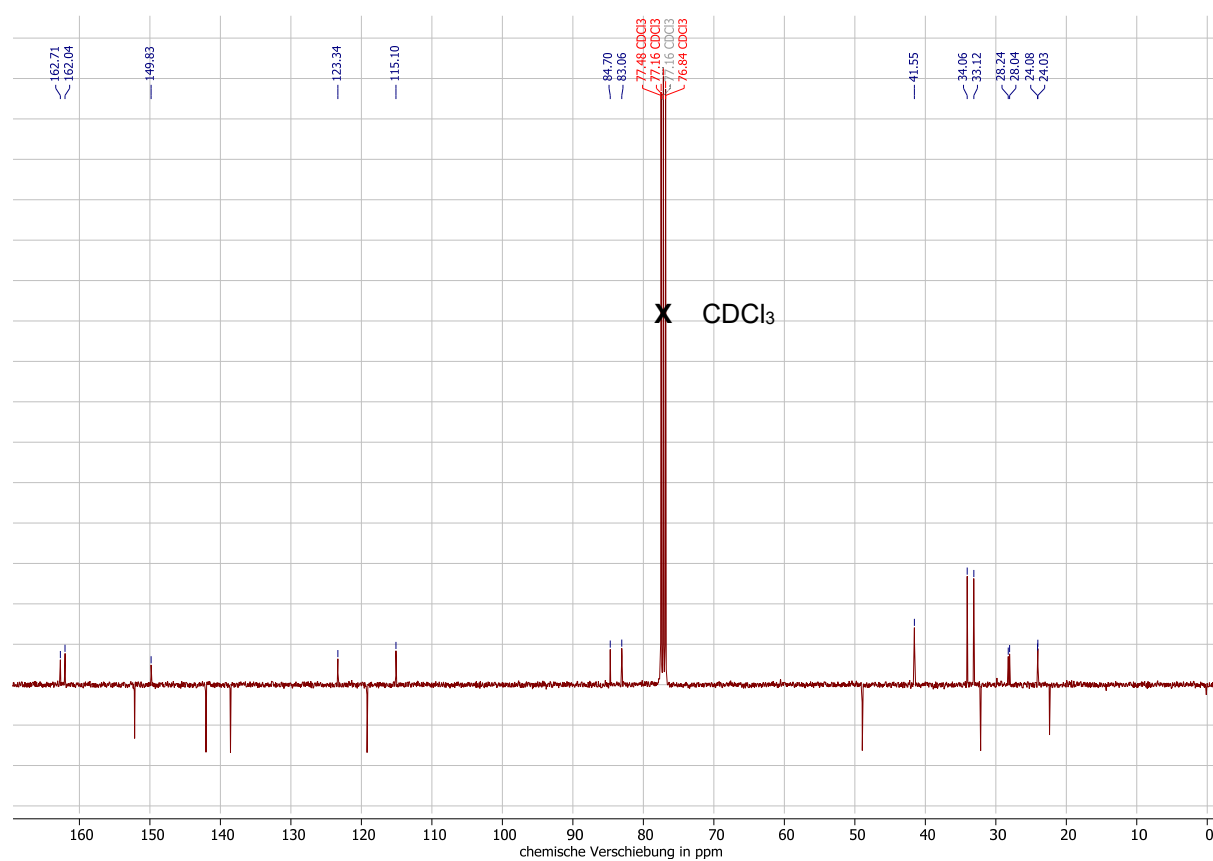
**Trans-5**  $^{19}\text{F}$ -NMR:



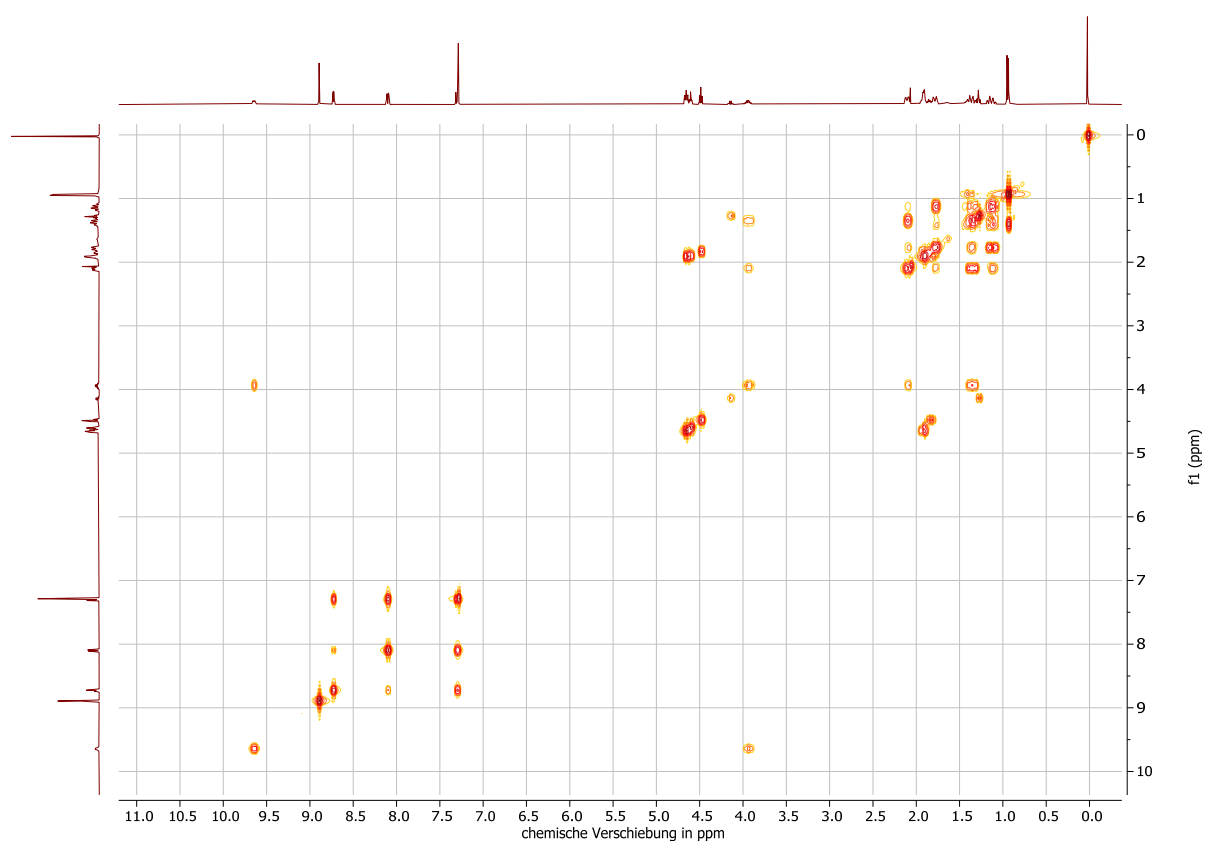
**Trans-5**  $^{13}\text{C}$ -NMR:



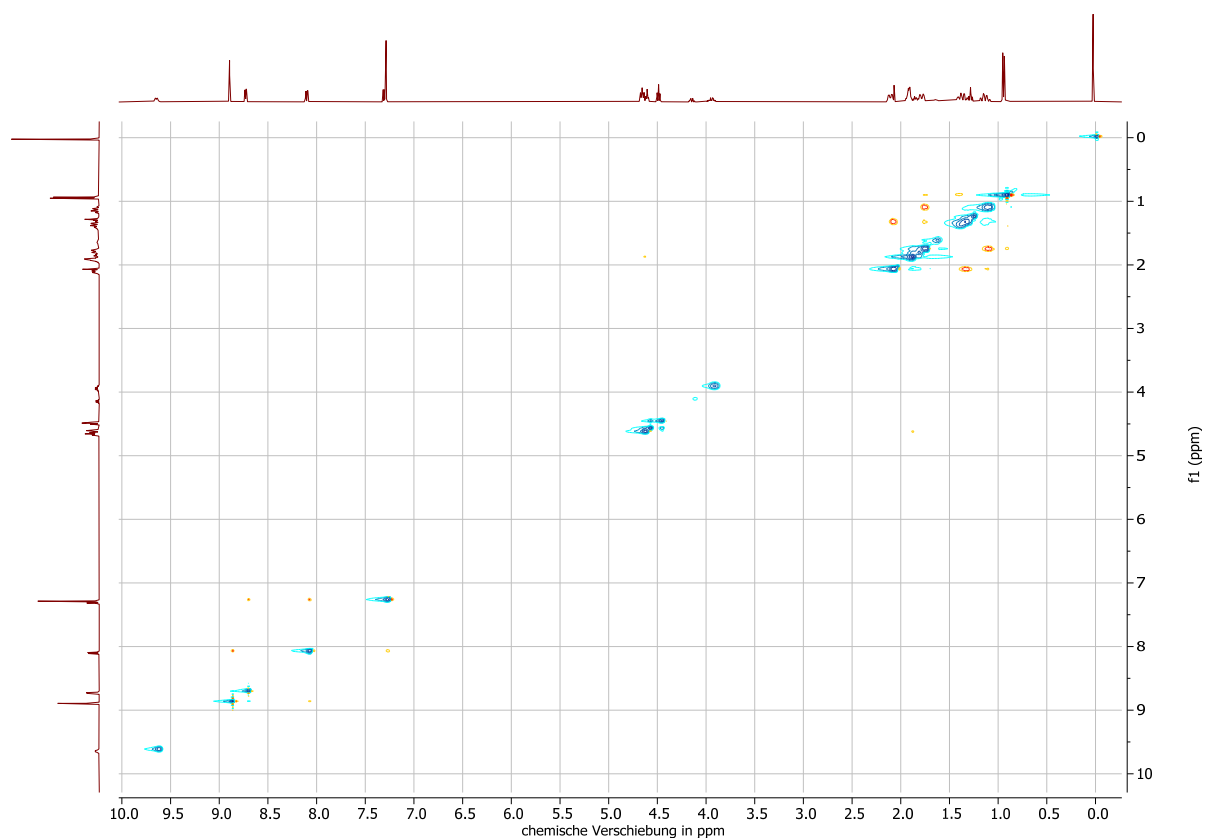
**Trans-5**  $^{13}\text{C}$ -APT:



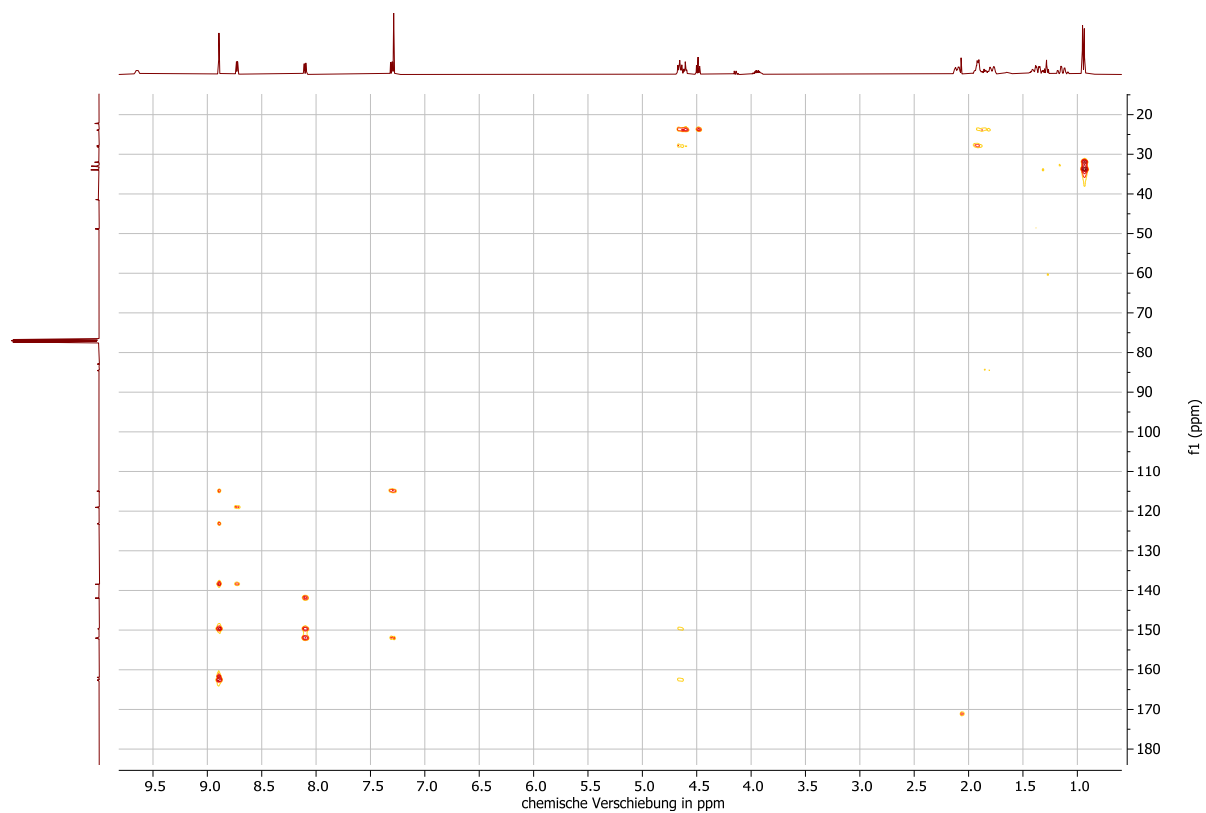
**Trans-5** 2D-NMR: COSY:



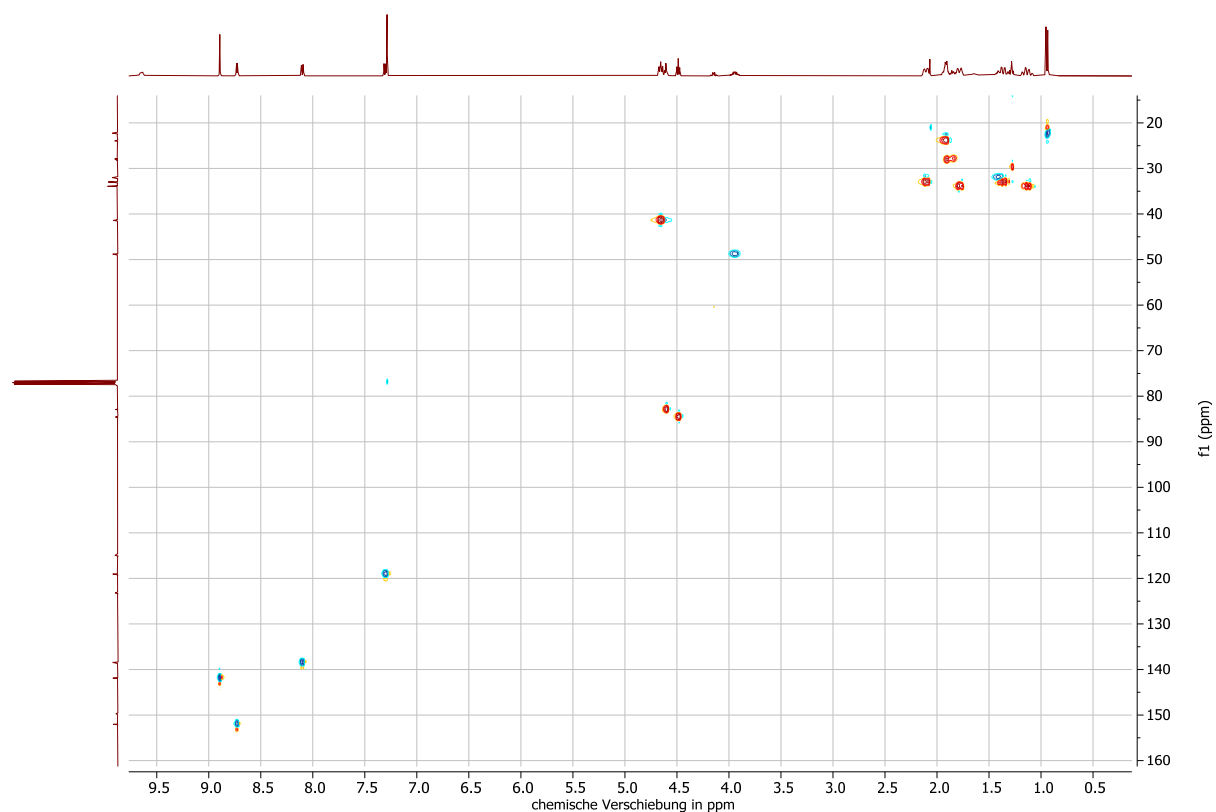
*Trans-5* 2D-NMR: NOESY:



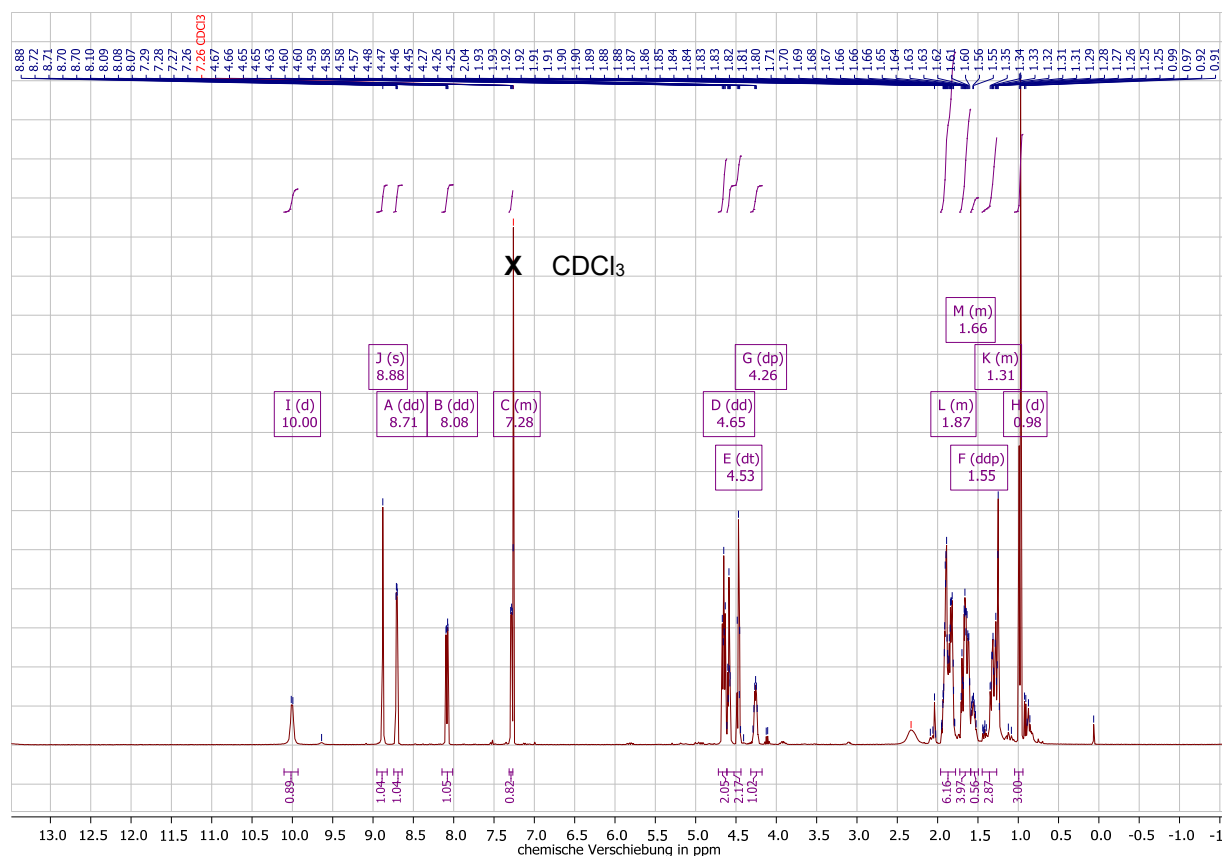
*Trans-5* 2D-NMR: HMBC:



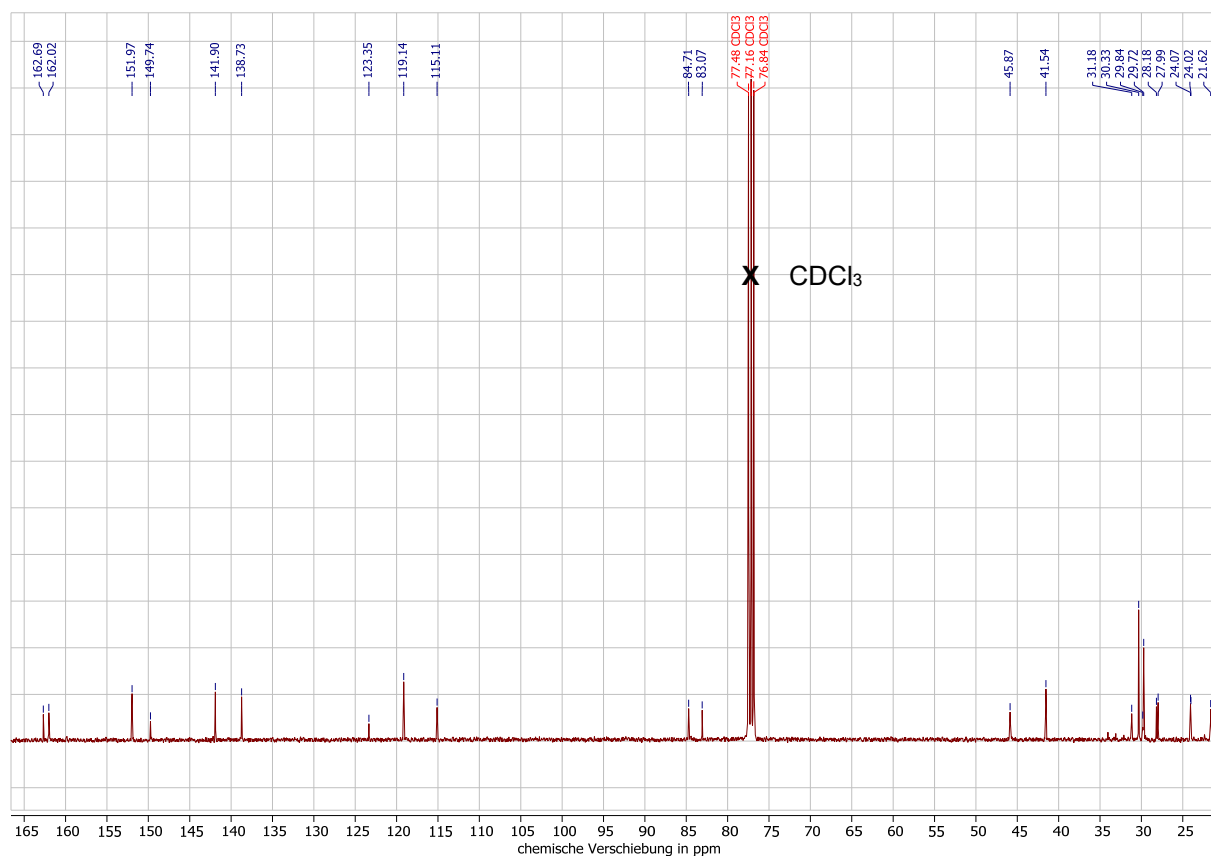
**Trans-5** 2D-NMR: HSQC:



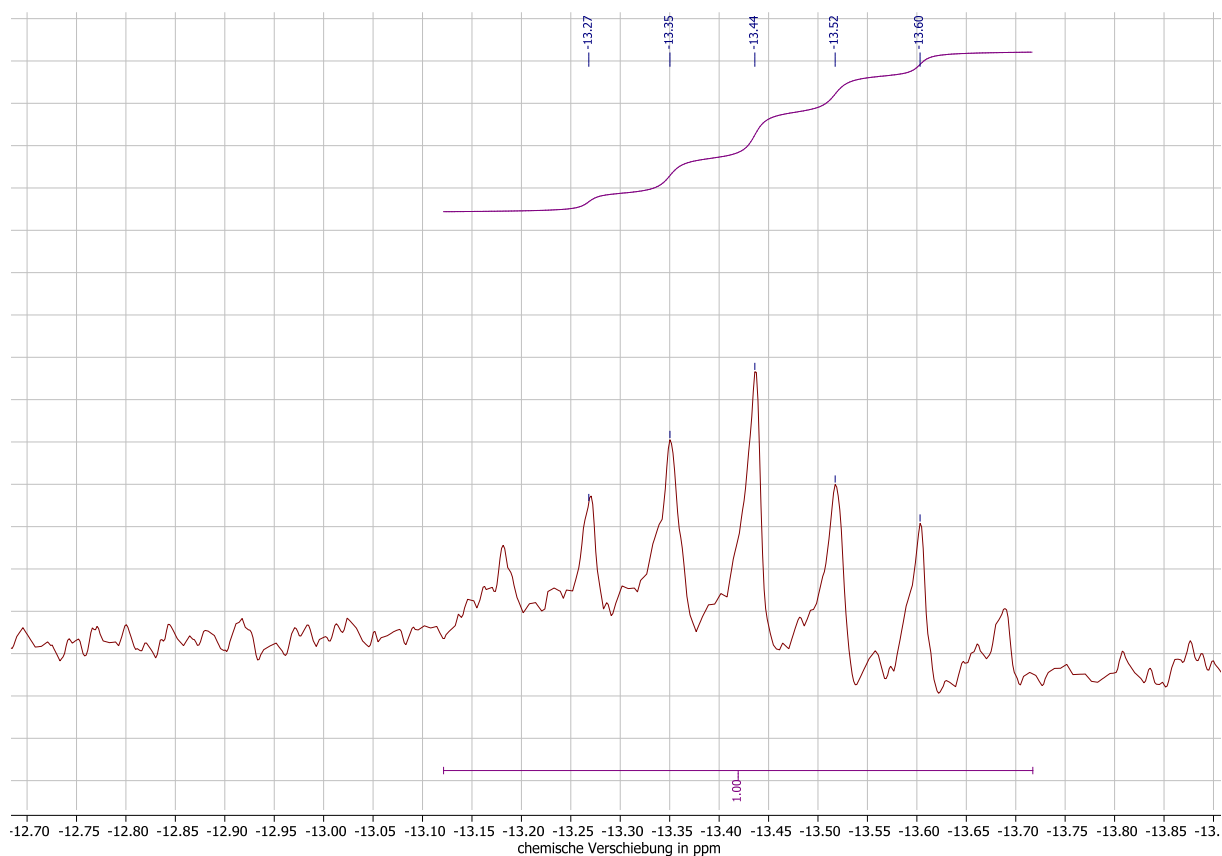
**LU14**  $^1\text{H}$ -NMR:



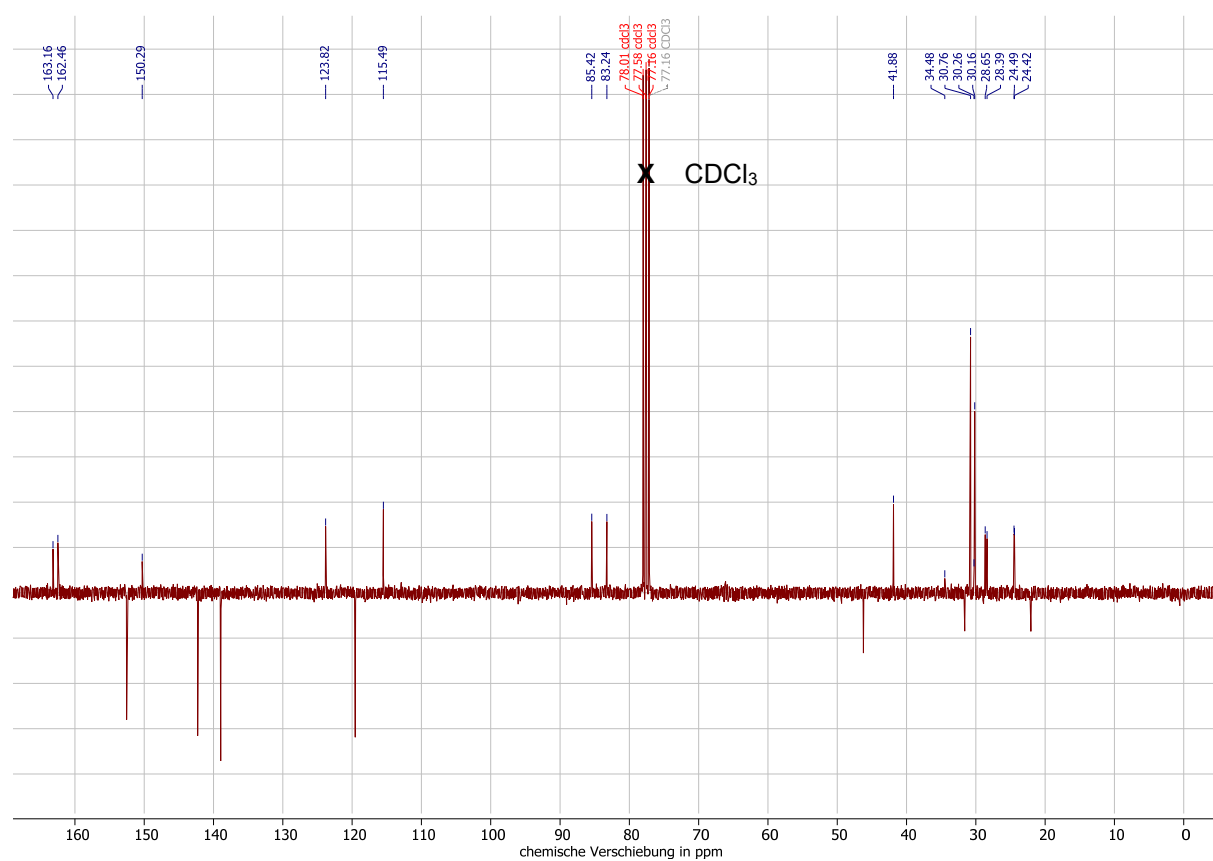
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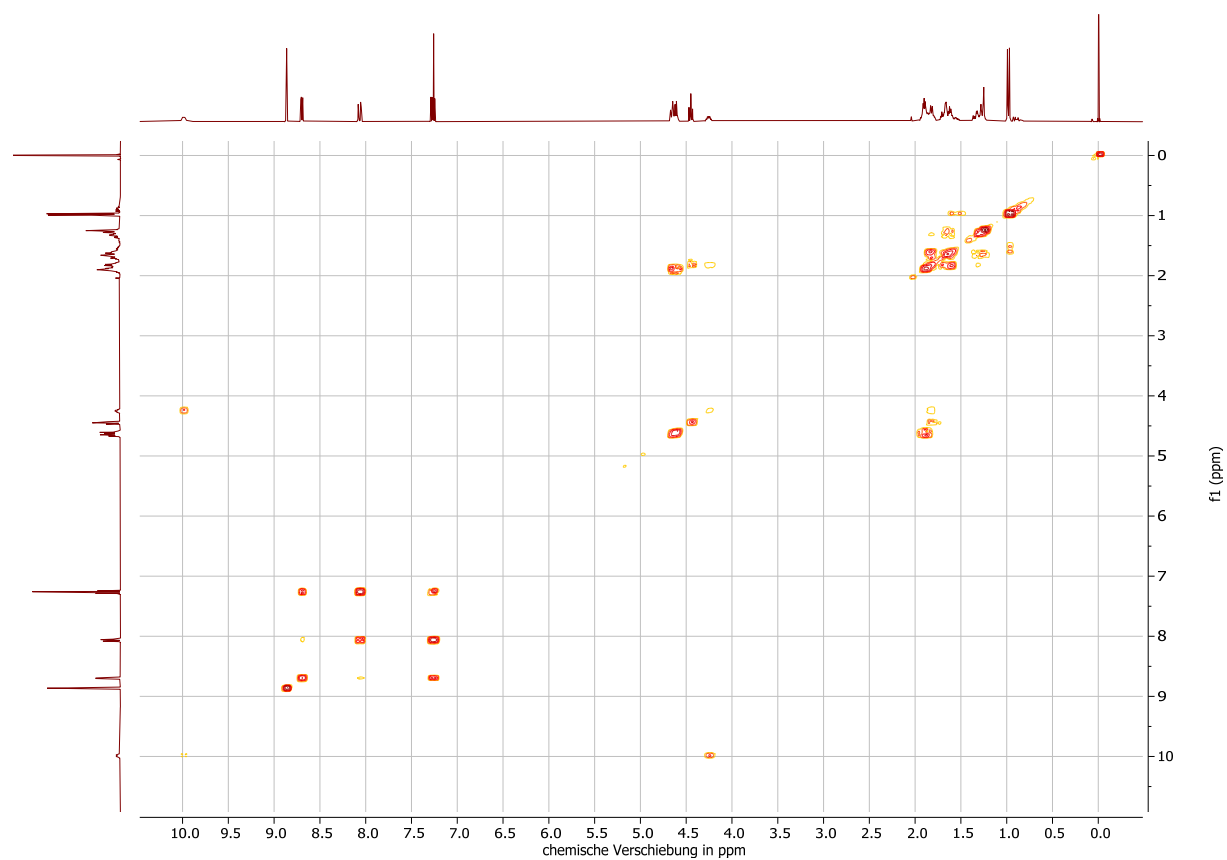
# LU14 $^{19}\text{F}$ -NMR



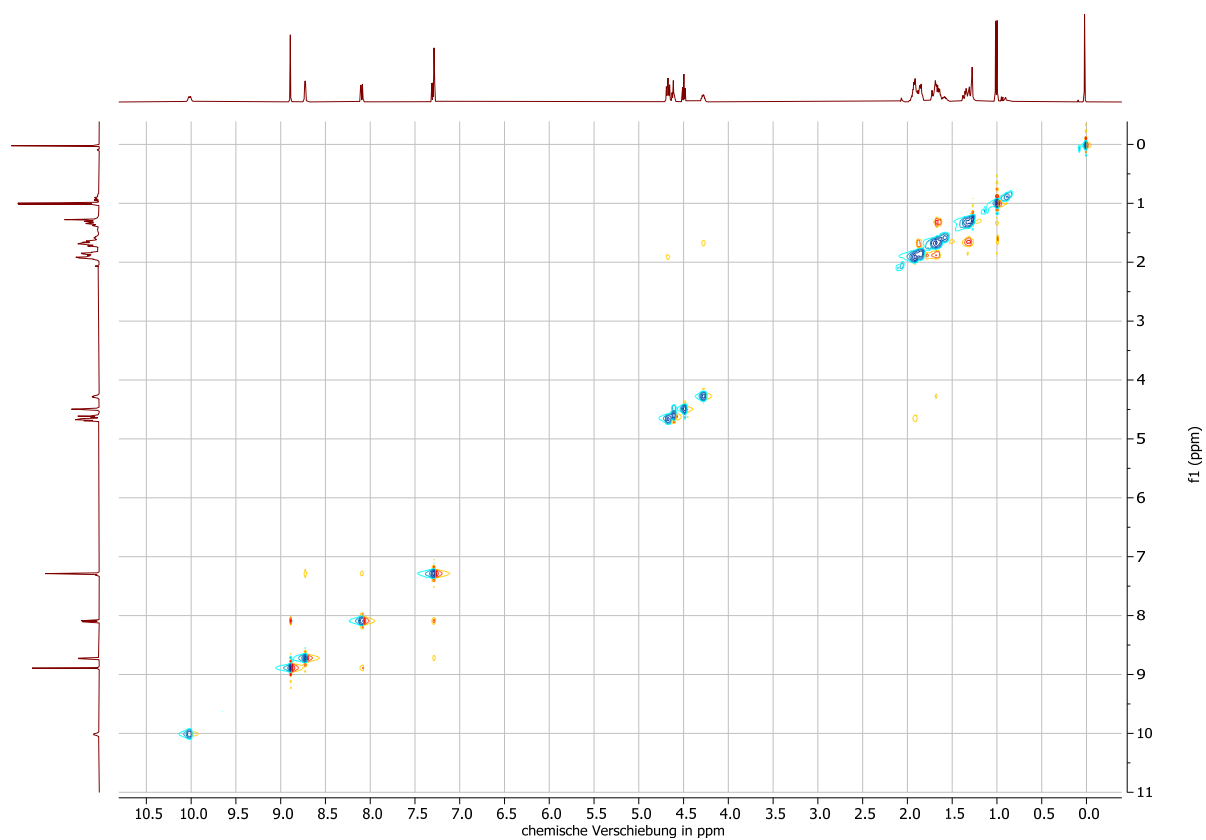
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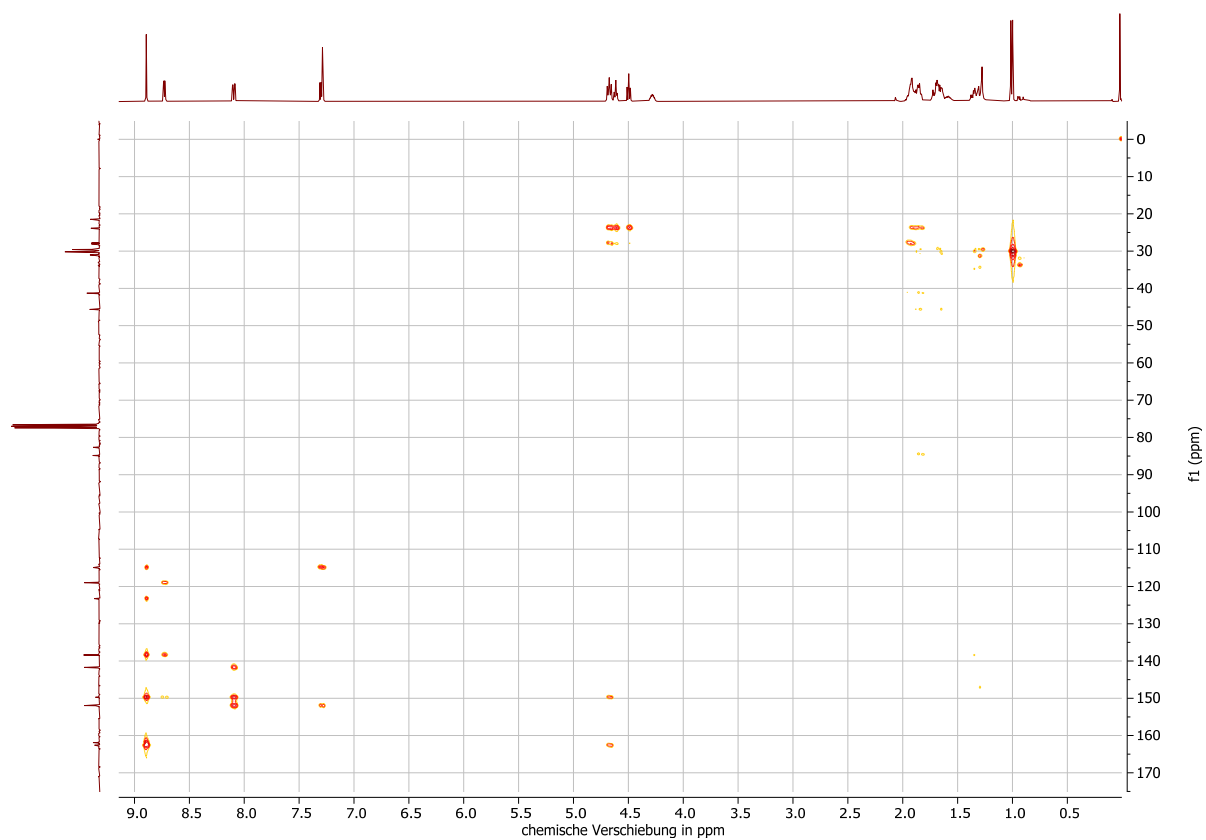
**LU14 2D-NMR: COSY:**



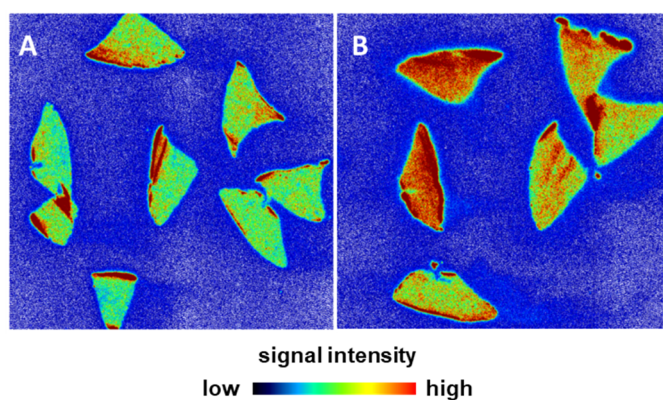
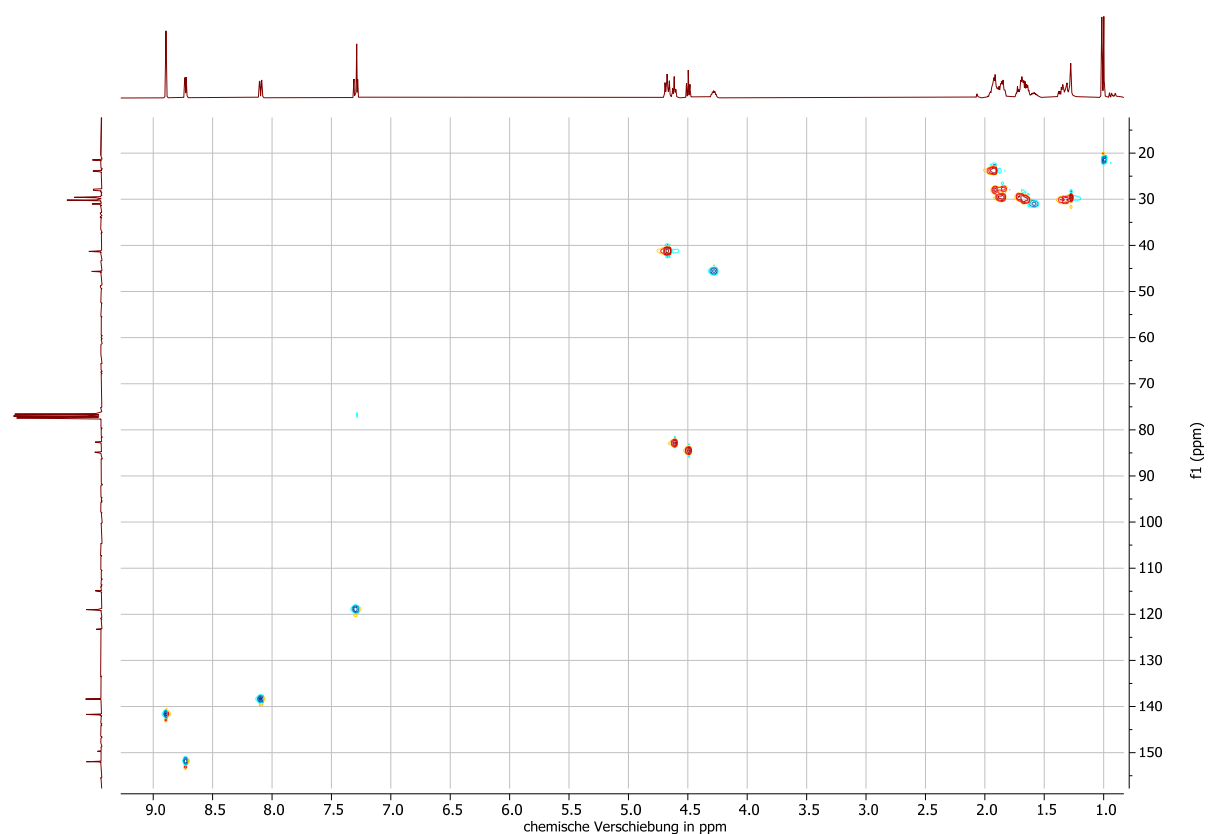
**LU14 2D-NMR: NOESY:**



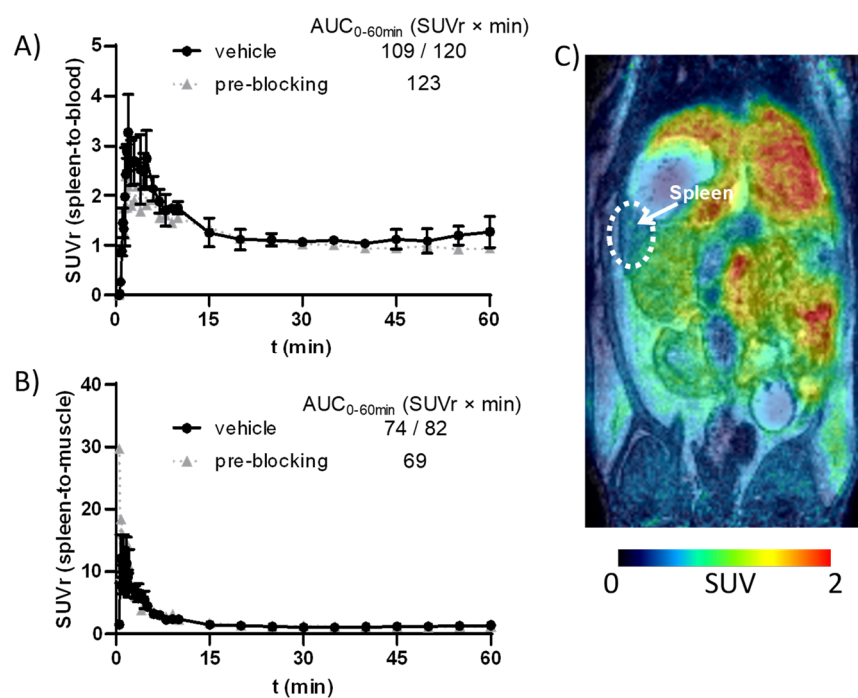
**LU14 2D-NMR: HMBC:**



**LU14 2D-NMR: HSQC:**



**Figure S1.** Radioluminography of rat spleen sections to analyze the distribution pattern [ $^{18}\text{F}$ ]LU14. Cryosections (10  $\mu\text{m}$ ; female SPRD rats) were incubated with 1.3 nM [ $^{18}\text{F}$ ]LU14 without (total binding; **(A)**) or with 5  $\mu\text{M}$  GW405833 (nonspecific binding; **(B)**) for 60 min.



**Figure S2.** Dynamic PET imaging of  $[^{18}\text{F}]\text{LU14}$  in Wistar rats. Time-activity curves (mean  $\pm$  S.D.) of SUV ratios of spleen-to-blood (A) and spleen-to-muscle (B) with ( $n = 2$ ) and without ( $n = 1$ ) pre-blocking with 1.5 mg/kg bodyweight applied i.v. 10 min prior tracer; (C) coronal plane, averaged time frames from 0–60 min.