Supporting Information for

Gd(III)-Dithiolane Gold Nanoparticles for T_1-weighted Magnetic Resonance Imaging of the Pancreas

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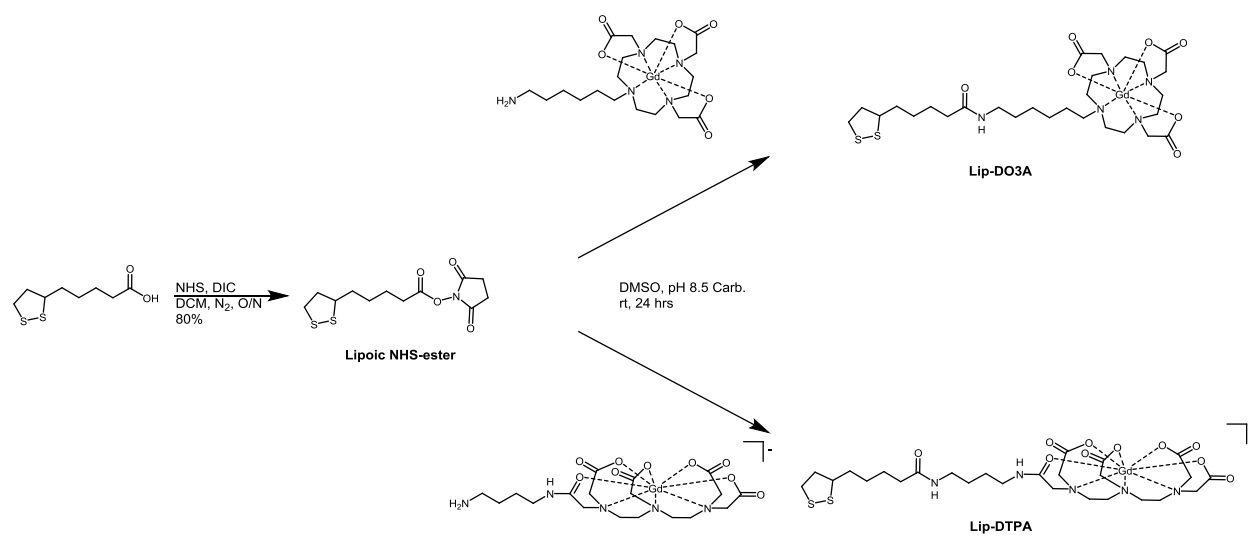*Corresponding author email: tmeade@northwestern.edu

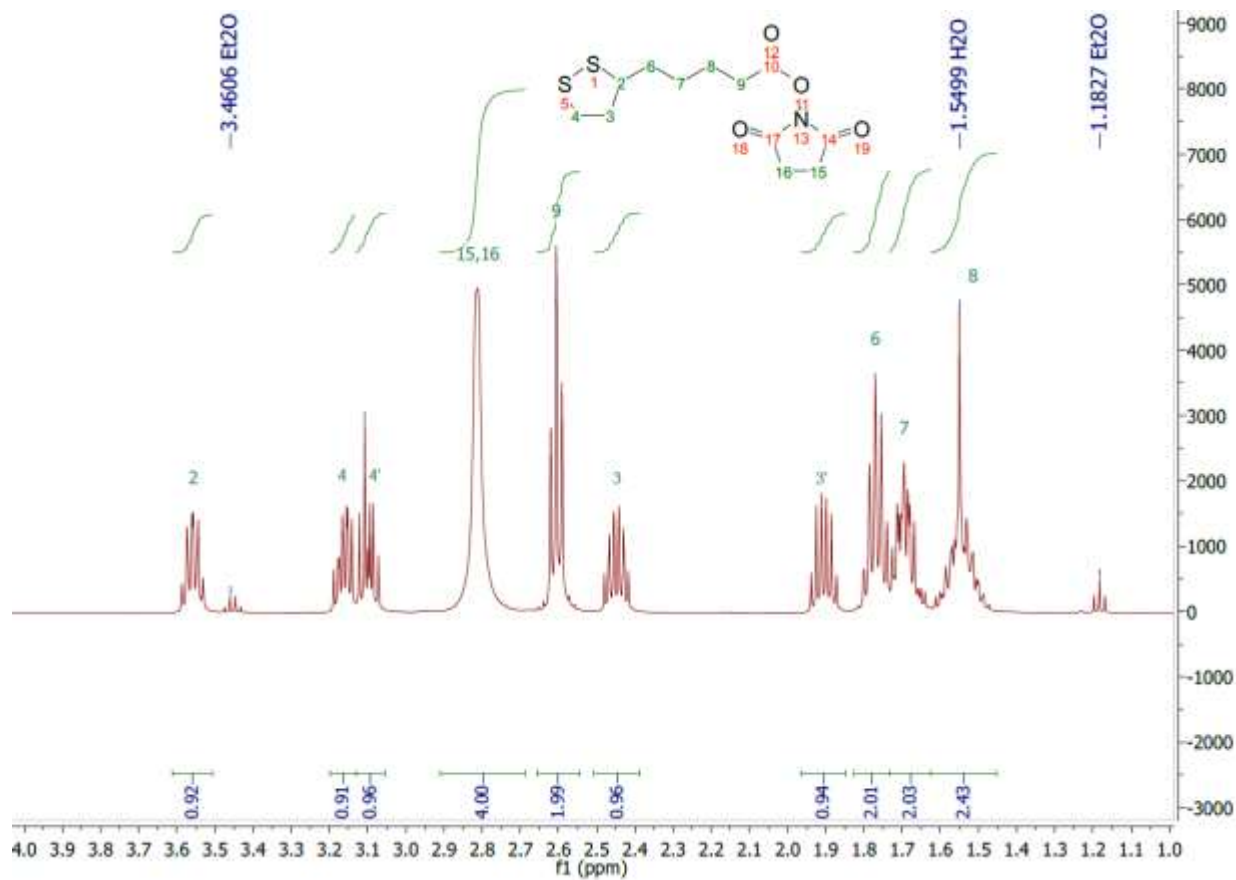**Fig S1.** Synthesis of Lip-DO3A and Lip-DTPA

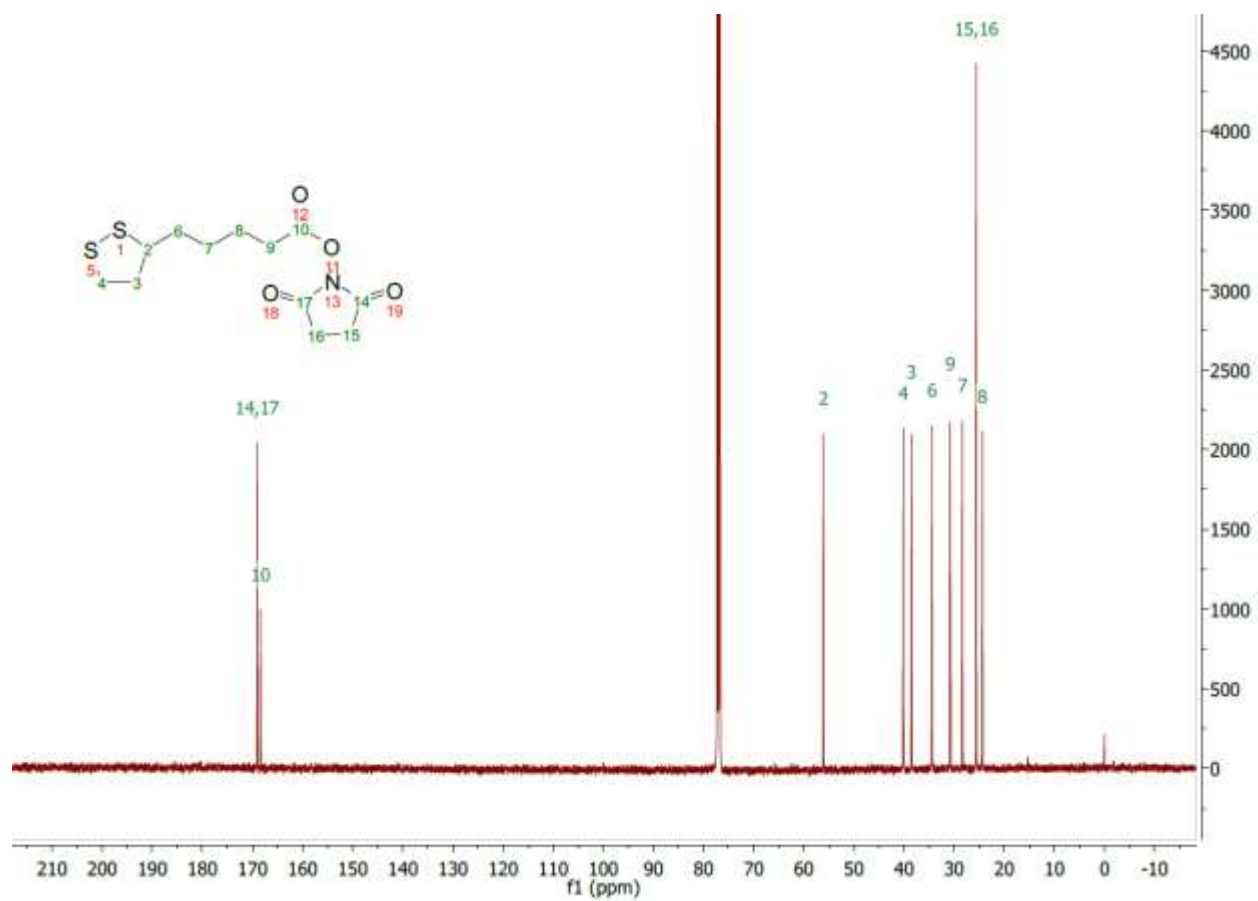**Fig S2.** Proton NMR spectrum of Lip-NHS.

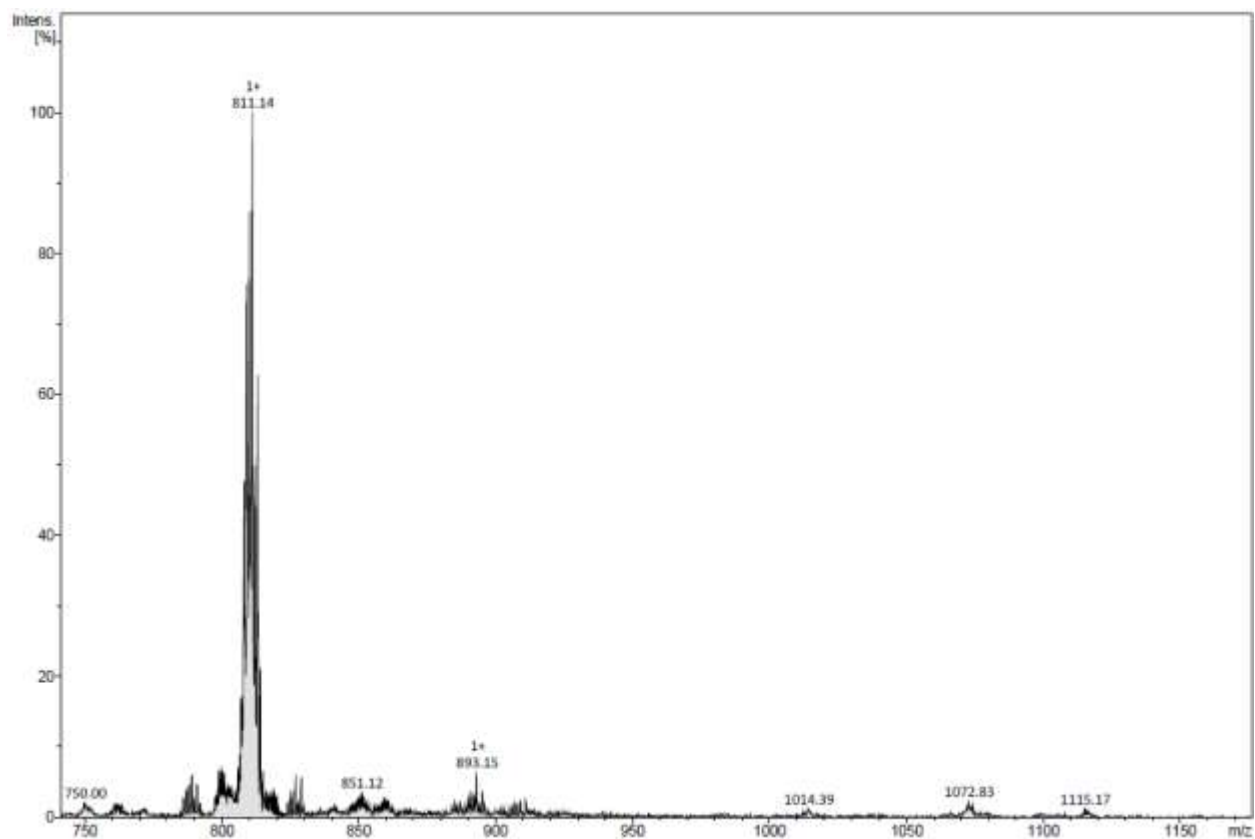**Fig S3.** Carbon-13 NMR spectrum of Lip-NHS.
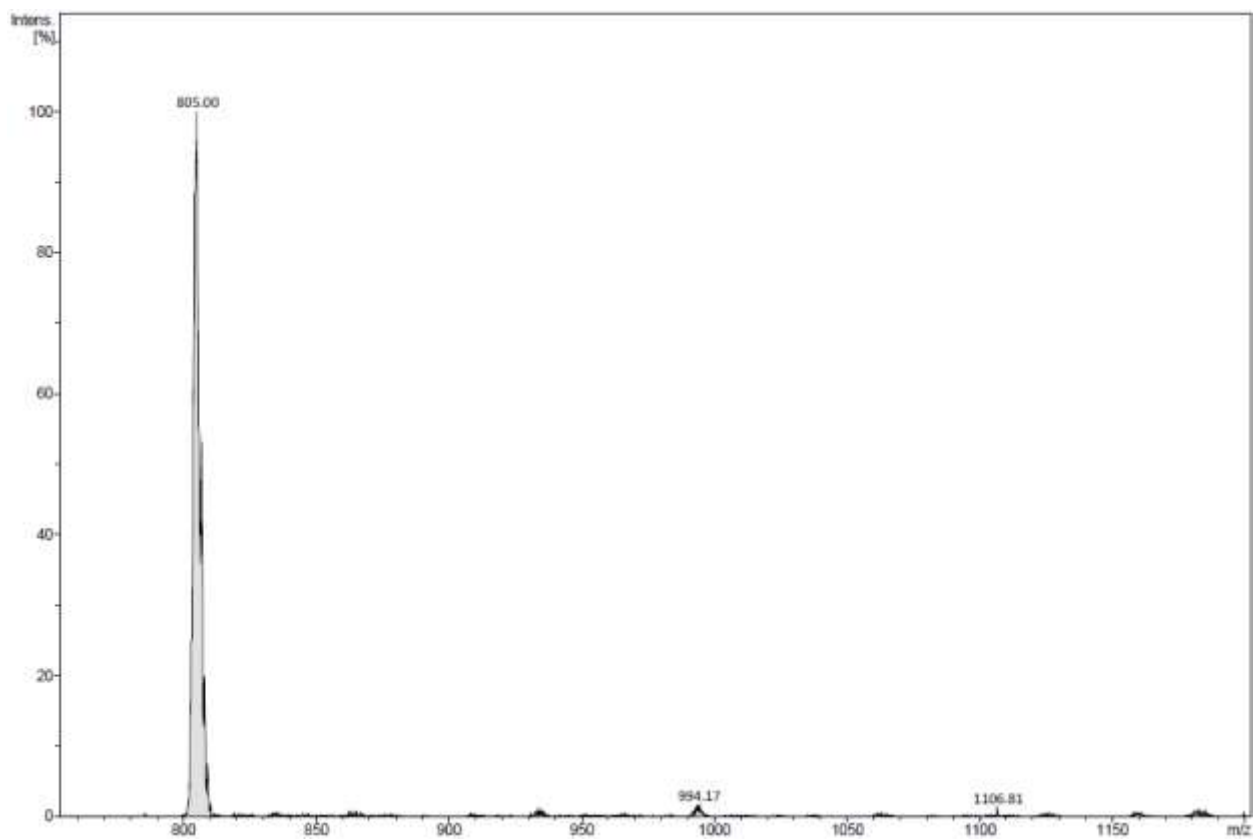
Fig S4. ESI-MS spectrum of Lip-DO3A.

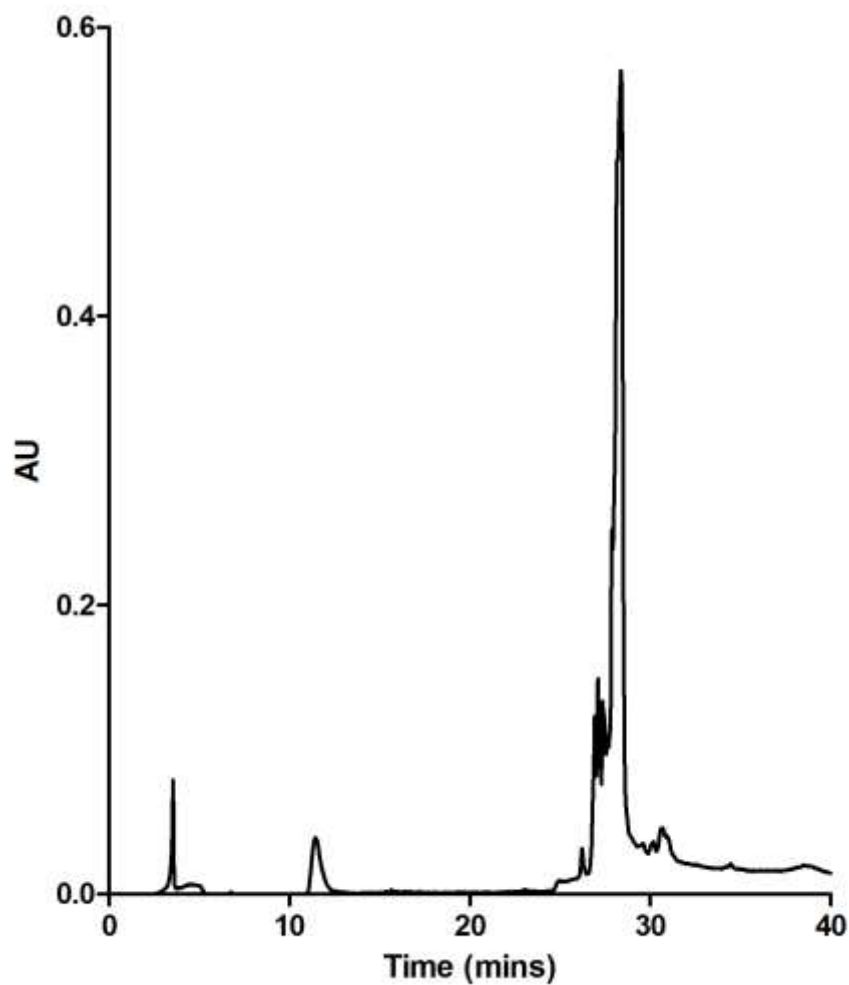**Fig S5.** ESI-MS spectrum of Lip-DTPA.

Fig S6. HPLC chromatogram of pure Lip-DTPA measured by UV absorption at 210 nm. Sample was suspended in 0.01% w/v TCEP buffer (TCEP peak visualized at approximately 12 minutes).
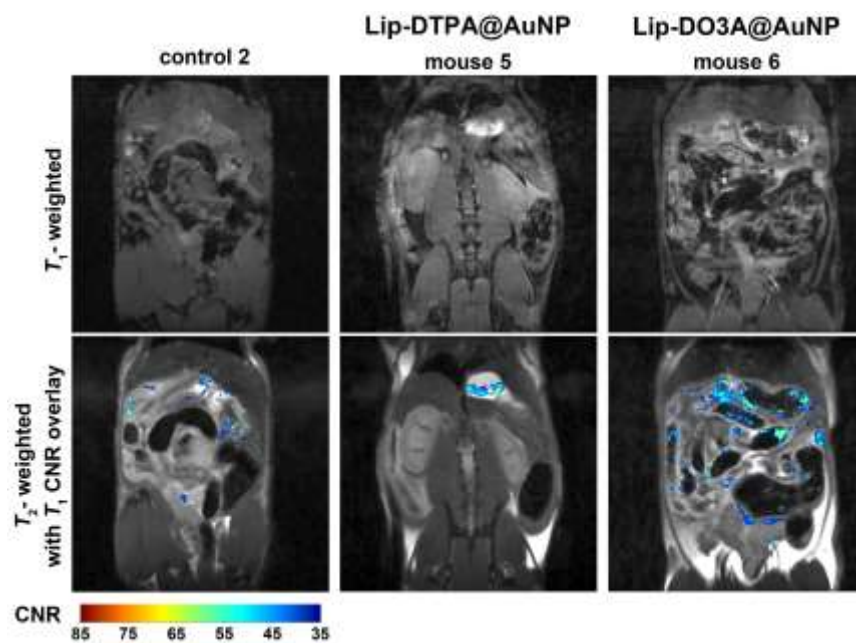
Fig S7. T_1-weighted FLASH images of Lip-DTPA@AuNPs and Lip-DO3A@AuNPs were obtained at 9.4 T (for the second of two controls, and the third mouse of each nanoconjugate injection, shown here). Contrast-to-noise ratio (CNR) relative to muscle, computed from T_1-weighted FLASH images, were overlaid on TurboRARE T_2-weighted anatomical images at 9.4 T after administration of Lip-DTPA@AuNPs, Lip-DO3A@AuNPs, and no agents (control) following 24 h incubation.
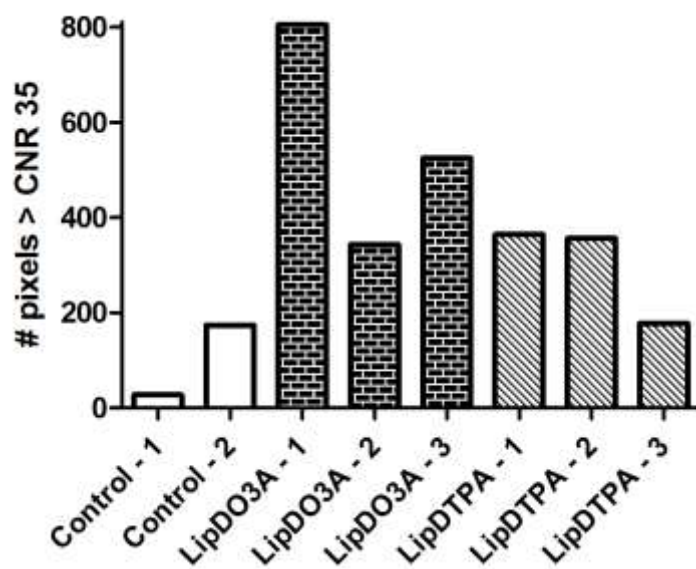
Fig S8. Graph depicting number of pixels in pancreas ROI above CNR of 35 relative to muscle in each mouse tested. CNR maps were measured by placing a single region of interest around the pancreas, in leg skeletal muscle, the bladder, and a noise region in the corner of the image. The muscle signal was subtracted from each pixel in the pancreas ROI, and divided by the standard deviation of the noise. CNR maps were set to a threshold at a value of 35, and the number of pixels in the pancreas ROI of each mouse was counted.