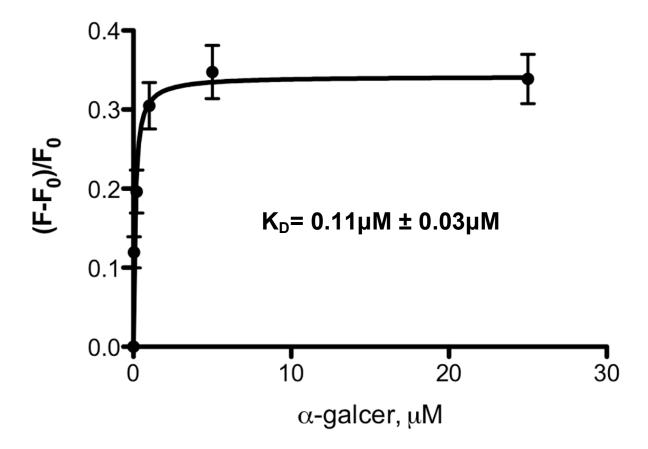
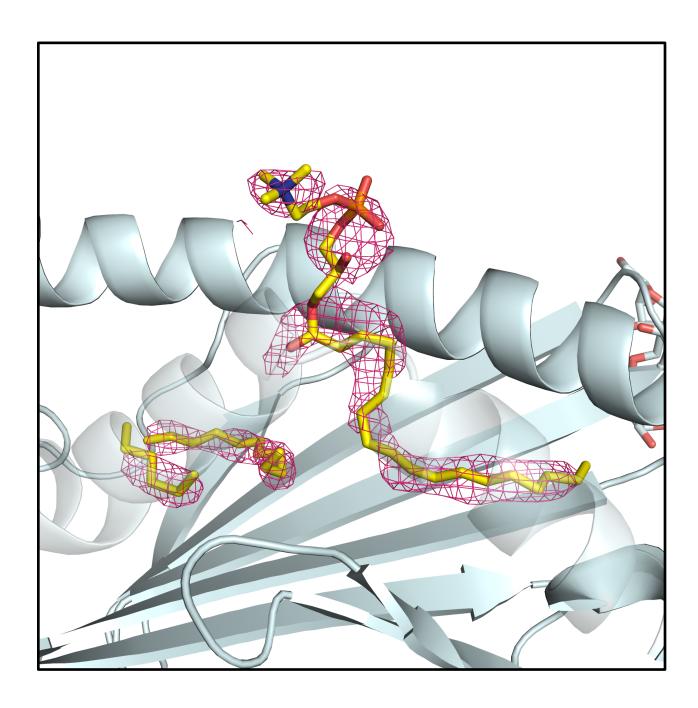
## **Supplemental Figures**

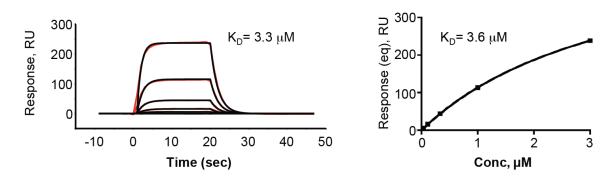


Supplemental Figure 1A. The change in intrinsic tryptophan fluorescence of CD1d as a function of titrated amounts of  $\alpha$ GalCer. The increase of tryptophan fluorescence with increasing amounts of LPC was expressed as a ratio (E-E<sub>o</sub>)/E<sub>o</sub>, the change in fluorescence divided by the control fluorescence in the absence of added  $\alpha$ GalCer. The data were fit to a one-site binding model to determine the apparent K<sub>D</sub> (as defined in the text) of this interaction.



Supplemental Figure 1B. Omit map electron density of LPC and spacer lipids presented by CD1d. Side view of the LPC/CD1d binary complex showing omit map electron density in pink, contoured at  $1\sigma$ , for LPC and the C6 and C11 spacer lipids. The  $\alpha$ 1 helix has been made transparent for optimal viewing.

## α-GalCer



Supplemental Figure 2. Surface Plasmon Resonance measurements of iNKT-TCR binding to CD1d- $\alpha$ GalCer. Left panel: SPR traces of the LPC reactive iNKT-TCR (immobilized on chip) with  $\alpha$ GalCer loaded CD1d as analyte. Curve fits are shown in red and were used to calculate the dissociation constant ( $K_D$ ). Right panel:  $K_D$  calculated from equilibrium fits of saturation levels.